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Soviet Union

Economic Affairs

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Economic Affairs

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ECONOMIC POLICY, ORGANIZATION, MANAGEMENT

Selyunin, Khanin Defend Article on Data Distortion

18200033a Moscow NOVYY MIR in Russian No 12
Dec 87 (signed to press 2 Nov 87) pp 255-257

[Article by V. Selyunin and G. Khanin: "Does Statistics
Know Everything?"]

[Text] During a discussion with an Izvestiya correspondent (on 22 June 1987), the chief of the USSR TsSU [Central Statistical Administration] M.A. Korolev strongly refuted our article entitled "Cunning Figures," which was printed in the second issue of this year's Novyy Mir journal. In the process, the work was presented in a manner such that there were those who questioned the authenticity of the statistical data. But one could cite many publications of recent months in which the authors have exposed statisticians for having distorted information. Yes and M.A. Korolev himself has cited some almost incredible facts. For example, every one of the new apartment buildings in Georgia in fact turned out to be unfinished and yet they were included in a report.

But this dispute is not concerned with individual facts. Using new methods, we attempted to evaluate the rates of economic development for an extended period. We determined the dynamics of national income using three methods and construction output — also using three methods and so forth. Naturally, it is impossible to describe all of the methods in a popular article (they are set forth for specialists in "Izvestiye AN SSSR. Seriya ekonomicheskaya" [News of the USSR Academy of Sciences. Economic Series], 1981, No 6, No 3). For the purpose of illustration, only one method is described in the journal — the so-called index of physical volume. It is employed extensively by both foreign statisticians and Soviet scientists. This accounting method has its own shortcomings and thus the conclusions concerning industrial development were rechecked using five other methods. All of them furnished roughly the same results, which however deviate strongly from the official statistics. Despite the fact that the information in the article was clearly stated, our opponent maintains that we employed only one accounting method and thus no accurate data could be obtained. We did not follow this up with any denials.

Of all of our arguments advanced during the discussion, one was rejected and an exceptionally important one at that: the chief of the TsSU insists that from 1928 to 1985 national income increased by a factor of 86 and according to our calculations — by a factor of 6-7. M.A. Korolev views our figure as being incredible. But why? If today our country produces the same amount of net output in less than 2 months than was produced earlier over the course of an entire year, then is this really a poor

rate of development? And if the official figure is correct, then each resident of the country would today be consuming the former annual "norm" for material blessings in just one week's time.

In the opinion of our opponent, if one accepts the income growth computed by us, then there could be no talk about "victory during the Great Patriotic War or achieving military-strategic parity between the USSR and the U.S.A." Is this really true? Allow us to cite some facts. The development of heavy industry and the strengthening of the country's defensive posture required tremendous sacrifices and deprivations on the part of the Soviet people. In economic categories, this is expressed as follows: the proportion of savings in national income during this period increased by a minimum of twofold and expenditures for defense increased from 2-3 percent of the national income in 1928 to 15 percent during the pre-war period and during the war they absorbed more than one half of the income. Let us also take into account the fact that the diversion of resources for defense of itself is restraining the rates of development: cannons, tanks and military aircraft, having already been taken into account, as prescribed, in the national income, do not participate subsequently (distinct from machines) in the creation of new products. This fact lines up perfectly with our calculations.

The journal VESTNIK STATISTIKI furnished ample space for criticism of our article. Eight typed pages were devoted to this subject in the 6th issue for this year. Thus Professor V. Knyazevskiy from Rostov asked a reader directly in which area we erred most — cunning or ignorance and then he himself replied: "we suspect them to be better at cunning than at ignorance." Better, considerably better! Thank you, certainly, for the kind words and yet you would think that a truly gallant individual would allow us to decide ourselves what type of miscreants we unfortunately are. After having dealt with us in this manner, the professor thereafter cited formulas which applied to the problem only in the sense that they prove the vast knowledge of the author and thereafter he took to writing about an entirely extraneous issue.

The doubtful nature of the official statistics is explained to a decisive degree by the fact that it ignores the rapid growth in wholesale prices that is not reinforced by improvements in the consumer properties of the products. Here the statisticians fall into their own trap. Truly, it is for this reason that not one serious economist believes the reports concerning the development, for example, of machinebuilding. The country's leaders sharply oppose the unsound inflating of wholesale prices and in the recently adopted Law Governing State Enterprises, special measures were set forth for combating this evil and the statisticians have been forced to state that nothing of the sort exists (otherwise they would have to revise radically the dynamics of economic development) and that our statistics are mainly objectively in nature.

The leader of the USSR TsSU began the discussion on this point: if distortions did occur, then "the statistics had no purpose here. Objectivity has always been its most important principle." It was as if it was not the TsSU that had reported to us regarding the successful fulfillment of the failed five-year plans and as if it is not this department that today is the last to recognize the problems. Yes and why recognize this fact if in the words of M.A. Korolev "this is no longer statistics but rather fraudulent practice."

The Politburo of the CPSU Central Committee has demanded radical improvements in statistics, but it turns out that there is nothing to improve. On the whole, the system is working well. Judging by the statements made by M.A. Korolev, the restructuring of the service headed by him will not take place soon. Obviously, in the spirit of the times he recognizes that his department is not operating in a flawless manner. However, no sooner does the discussion turn to specific things than the readers are once again presented not with true but rather with embellished information.

One example. The correspondent was interested in the dynamics of retail prices and he was informed that our index of state prices is sufficiently stable (the growth in prices over a period of 15 years was only 8 percent). It is possible that an inexperienced reader would not notice that the reply was not in keeping with the question. Why mention the index only for state prices? Can the population always purchase meat everywhere for 2 rubles per kilogram? As is known, it is more expensive in cooperative stores and on the market. Allow us to explain further how the index is generally computed. Let us assume that women's shoes sell for 20, 100 and 150 rubles. Now, imagine if you will that instead of 20 ruble shoes, the industry begins producing those costing 50 rubles and instead of 100 ruble shoes — 130 rubles. The price index will not change at all as a result of this. Indeed, not one of the products has become more expensive — the old models simply disappeared and the new ones have new prices. Is this deception? Not at all. The indexes can be shown only for those items for which they were developed. And according to another count, as reported by a knowledgeable individual in IZVESTIYA (24 April issue), the increases in commodity turnover during the 10th Five-Year Plan are explained by a growth in prices of 50 percent and during the 11th Five-Year Plan — 60 percent. During these two five-year plans, the average prices for goods of agricultural-domestic nature were raised more rapidly by a factor of 2.5 than the stable prices found on price lists, the same ones referred to by M.A. Korolev. In real life, marketable and cheap goods are no longer available for sale and this hurts mainly pensioners, students and other persons with fixed incomes. Quite often the prices for goods increase and not as a result of improvements in their quality. Methods which include these processes have long been available for statistical purposes but they have not been included in the task of the chief of the TsSU.

Statistics also bear out the fact that we have the lowest housing payments in the world. Does this cover everybody? Why then do we have cooperative housing? And when an individual rents a room for 50 rubles monthly — is this not considered a payment? True, profit is involved. One glances at a bulletin board to see who is searching for private housing — two out of three such requests are from youth, that is, people with relatively humble incomes. Without knowing the true picture, how is it possible to plan demographic policies?

Based upon this discussion with the chief of the USSR TsSU (now following a change — the chairman of the USSR State Committee for Statistics), it would seem that in the world covered by our statistics there are no homeless or needy persons, goods are always sold at the same price, occupational injuries do not exist, and there is no alcoholism, crime or other human vices and natural calamities are also lacking. One can only remain surprised by this indifference of statistics to active life!

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Theory, Practice of Reform in Transition Period Discussed

18200029b Moscow *EKONOMICHESKAYA GAZETA*
in Russian No 47, Nov 87 p 16

[Article by Yu. Chaplygin, candidate of economic sciences, under the "The New Economic Mechanism" rubric: "The Starting Point of the Reform"]

[Text] Many things—the logic of restructuring, its sequence, the circle of participants, the integrity and systematicness of actions, and the success rate—depend upon the answer to the question, "What Does One Start With?"

For a restructuring of the control of our economy, this question is not simple. The logic of centralized supervision of the economy would seem to indicate unambiguously: begin from the top, granting the economic center new and more active levers for controlling the effects on the "bottoms"—the enterprises and associations, and their laboring collectives. That is the way it was previously. The measures adopted repeatedly for improving the economic mechanism did not introduce radical changes into the control system, they touched only its "transmission belt"—management stimuli. Therefore, such measures were only half-hearted, they reached the enterprises in abridged form, and did not create conditions for self-development for either the "tops" or the "bottoms." The old management mechanism was, in essence, thereby recreated, conservatism of thought and callousness of managerial decisions took shape, causing "stress" to build up throughout the whole managerial pyramid.

The planned reform was revolutionary because it overturned the management pyramid, and set it up from top to bottom. For this purpose, a reexamination of many deep-seated notions, concepts and dogmas and a recognition of the fact that the main economic processes develop, not at the top floors of control but at the enterprises, where material welfare is created and the creative capabilities of millions of people are realized, was required. And, finally, unconditional confirmation was required of the fact that it is precisely in the laboring collectives, and not outside them, that the economic and social relationships are manifested that determine decisively society's social and political climate.

Practical embodiment of this turn of thought became a realization of the necessity for creating an economic mechanism that would prompt economic enterprisingness, initiative and responsibility. The main thing here is to give enterprises and laboring collectives those rights which will provide for realistic economic self-reliance, and will compel not a comparison of the plan with the resources but a consideration of expenditures and income, and an assumption of material responsibility both to one's self and to one's partners, and to the state. In other words, laboring collectives should be able to live and work under economically accountable self-sufficiency and self-control.

On this basis, mutual relationships of enterprises with the central organs for controlling the economy are being reconstructed, and essential changes are being introduced in the essence, forms and methods of controlling the enterprise as the basic element of the economy. The purpose of the activity of all elements of economic control is to provide laboring collectives with the most favorable working conditions. This is the key idea here, the ideology of the radical reform of economic control.

The objectives of enterprises also are being changed. The highest purpose and the norm of each laboring collective's activity are to meet completely and on time the requirements of the national economy, one's partners, and the populace for high-quality output produced at minimal cost.

Such an approach is a basically new phenomenon for our economic mechanism, which requires deep theoretical comprehension and out-of-the-ordinary practical solutions. It is obvious today that the relationships of participants in the economic process—manufacturers and consumers, enterprises and ministries—should be changed radically. It is necessary to create an insurmountable barrier to any interference with the economic-operations activity of enterprises and to demolish the economic base for managerial and administrative control. The concept of the economically accountable self-sufficiency of enterprises, which was established politically by the June 1987 CPSU Central Committee Plenum and confirmed in the USSR Statute on the State Enterprise (or Association), gave a start to these processes.

The principle of preplanning confirms the historic advantage of socialist economics—the planned organization of social production, including even its basic element. However, in realizing this principle, a new content is introduced which enables one to speak about the start of the disassembly of commanded, directed planning and about its economically accountable democratization. The main thing is that the enterprise is transformed from the object of planning into the subject of it.

The enterprise's plan now will be shaped with the help of central planning and economic organs but will not be rearranged according to their instructions, as has been done until now. It is necessary to struggle for a good, strenuous—and that means a profitable—plan, to fill orders under the program, to prove back at the preplanning stage one's competence to carry them out qualitatively, and to propose deadlines, delivery terms, prices and enterprise guarantees suitable for the customer.

Does this mean that it is the start of competition among enterprises for a profitable order?

Yes and no. The conquest of the customer, of the market for selling output—these are the elements of the competitive struggle. But it will unfold among socialist enterprises, in the interests not of private persons but of the laboring collectives and of society. This means that it will be one of the forms of socialist competition that will involve the enterprise with the logic of economic accountability, and with the striving to obtain larger income and to provide more completely for production, social development and better pay for its workers. But not through market combinations and games with prices, but through output of better quality and less cost for production and sales.

Such features of economic competition as the adoption of nondedicated increased commitments, the summing up of results, and the determination of winners are not needed. The customer solves these questions unambiguously. The winners in this competition do not require special emblems of excellence. These are replaced by customer trust, new orders and growing income, which guarantee the present and the future.

If economic competition will help to overcome wage leveling, then economic accountability relationships should cure one of dependency—economic, scientific, technical and social. The profound idea of reforming control and the meaning of the choice of its starting point lie in permeating the whole economic mechanism, the whole system of relationships—from the brigade to the enterprise, and from the enterprise to still higher authority, right up to the ministry—with responsibility for economic accountability. But the chief bearer of this responsibility is the labor collective—the sole guarantor of its own and of society's welfare, which depends

directly on the final results of its activity, on the magnitude of resources earned for society's needs, on an updating of its production facilities, and on improvement of social conditions and the material situation of the workers.

One must not speak as if now everything will be easy and simple. Rather, it will be to the contrary. It will be necessary to overcome the inertia of centralized control, to learn to earn, to consider income and expenditures, to negotiate, to abandon the custom of looking into the state's pocket, to respect one's partners, and to use skillfully the rules that are new and, in many respects, unfamiliar. These obligations flow from the leading position of the enterprise in the new economic system. It will become the possessor of the means of production, and will emerge as a socialist commodity producer, with wide economic and social powers.

Property begets an owner, a circumstance that still calls for comprehension and probing into the deep consequences of this enactment, which at first glance is juridical. One thing is indisputable: putting a man of work in the position, from the economics standpoint, of genuine owner at his work place, in the collective, and in society is the key to a new motivational mechanism, to an awakening of personal motives for a concerned attitude toward public ownership, and that means also toward the new and more active stimuli for raising production effectiveness. The feeling of being owner is the strongest of interests, the most powerful inducement. But being an owner and becoming an owner are not the same thing. One must study it and learn it. Above all it is necessary to learn to be in charge of the social property granted the collective and, in practice, to bear responsibility (personal and material, with one's own ruble) for its effective use and augmentation, and to live on one's own earnings.

Guarantees of the development of self-sufficiency and initiative of an enterprise are included in the standards approach to the planning of its activity and to the distribution of its income, in the system's flexibility in providing supplies and equipment and in granting credits, and in the opportunities and obligations to construct economic relationships on a contractual basis. The material responsibility of supervisory economic organs for violating the rights of the enterprise or for improper execution of their commitments in regard to it are intensified. The habit of looking back, of acting according to guiding instructions is thereby trimmed. The economic supervisor has the right to make any decisions, if they do not clash with legality. He has no need to ask permission on matters regulated by law, and where there is no direct prohibition, he can and should act independently and, it stands to reason, responsibly.

The new management terms open up a broad vista for managers with initiative and enterprisingness, and it removes the masquerading clothes of "strong directors" whose chief merits consisted only in industriousness. A

single beacon—the economic accountability income of the enterprise's collective—is set before both the one and the other. They will report for it to the laboring collectives, and their competence and professionalism will be judged by it.

Income from economic accountability activity is not a numbers-on-paper amount. It is a reflection of the new management philosophy, which is oriented to self-development. The interests of the collective and of each worker are focused on it, and increasing it is a visible stimulus for all and a powerful lever for the economic conduct of an activity, for raising labor productivity, and for improving output quality. The dependence here is direct: the fewer the resources spent on producing a unit of output and the higher its quality, the greater the income, and, given stable standards for settlements with the budget and the ministry—the greater the resources that will remain for in-house needs.

One more circumstance is still important. Economic-accountability income seemingly will be separate in the state's compartment of enterprise wallets. Right now it is commingled, and often it is even difficult to understand where one's own is and where someone else's is. For example, an enterprise's fines, penalties and forfeits are paid from the free residue of profit, that is, by the state. But when one must pay for one's own blunders and miscalculations through one's own means, will the collective be indifferent to it? Scarcely. This requires that administration observes contractual and payments discipline and ceases the practice of forgiving all. Thus the feeling of ownership by each person, at first of one's own wallet and then also of the public's, will be hammered out.

Does not concern about one's wallet engender a market psychology, a self-seeking by the collective? This danger is not farfetched, but the state has adequately effective levers against it—prices, credit, economic norms and ceilings. They are adjusted to be both incentives for enterprising work and a limitation on unreasonable income. But if, under the prescribed standards, the collective does earn more, what is bad about that? More will go to social needs, and more will remain with the collective—for development and for incentives. But unearned income that does not depend directly upon the collective's work, that which is obtained thanks to better natural resources or management conditions, will in fairness be taken away in the form of payments to the state in order to provide for equal management conditions.

Today our economy is at a critical point. The new economic mechanism is only taking shape, and for a certain time two economies will be sort of coexisting—working under the new principles and living under the old ones. Such a situation undoubtedly will

create difficulties and will require of enterprise supervisors nonstandard solutions and a search for approaches not just for the traditional problems but also for new ones.

These problems reflect the difficulties of the transitional period of restructuring control. They must not be ignored. Acute problems, not finding timely solutions, can grow into contradictions.

Not much time has passed since the June 1987 Plenum of the CPSU Central Committee, but there has been enough time to master, if not the details, at least the principles of the new approaches to controlling enterprises and to understanding their role in the economic mechanism and their place in the economy. However, the restructuring of thought and actions is not consistent everywhere. The requirement expressed at the plenum does not allow that the new USSR Statute on the State Enterprise (or Association) be surrounded by a fence of numerous directives which can emasculate its essence and put the brakes on restructuring, and it remains in force.

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Kolpakov Interviewed on Changes in Ferrous Metallurgy Enterprises

18200029a Moscow *EKONOMICHESKAYA GAZETA*
in Russian No 47, Nov 87 p 8

[Interview with USSR Minister of Ferrous Metallurgy Serafim Vasilyevich Kolpakov by A. Gnidenko, under the rubric, "The New Economic Mechanism": "Before the Decisive Step"]

[Text] USSR Ministry of Ferrous Metallurgy Serafim Vasilyevich Kolpakov tells about preparation of the industry's enterprises for converting to full economic accountability and self-financing.

[Kolpakov] Personal responsibility for the preparation and conversion of enterprises to full economic accountability and self-financing has been vested, as is known, in the ministries. Here we refer not to an ordinary economic experiment but to a material basis for restructuring the economic mechanism and to a radical reform of the whole system of control, the key link of which is the enterprise.

[Question] To what extent are the requirements of the Statute on Enterprises fully considered in the process of preparing for conversion to full economic accountability? Many anxious letters have come to the editorial board, including letters from ferrous metallurgy enterprises, whose authors express not only concern but also critical remarks about higher organizations. And, moreover, the reports of surprise visits that check on readiness, which are published regularly in this weekly's pages, cite examples of formalism in this important

matters and cases of infringements of the enterprises' rights, or else simply a withdrawal from the solution of questions of vital importance to working collectives.

[Answer] We must overcome formalism. But most often of all, we run into an indifferent and, at times, openly dependent attitude toward the new mechanism on the part of the supervisors of some enterprises. And this conceals either incompetence or a low level of economic work at the enterprise. This is manifested, of course, in technical backwardness, inadequate attention to matters of technology, and even an elementary lack of discipline. There are some who display a desire not to change anything, for everything to remain as it was; even if it was not very good, we were, on the other hand, used to it.

But much must be changed, including habits. The economic mechanism will now compel things to be done which previously failed to be done under an ordered or administrative procedure.

Let us take, for example, the introduction of resource-saving technology. How many decisions have been adopted about this! Previously they could be ignored, one need only to refer to "objective causes." And now? The economists have figured out that such disregard will be thrown out under full economic accountability. The metallurgical plants Zhdanov imeni Ilich and Dneprovsk imeni Dzerzhinskiy, the Chelyabinsk combine, and the Yenakiyev Metallurgical Plant could lose 2 to 4 million rubles of profit.

From the standpoint of the plants, possibly, it is the standards and those who set them that are "guilty." The standards "say" the opposite.

The fact is that they have been set to take into account a leveling of the consumption coefficients for basic types of raw materials and material resources while producing similar output, given comparable quality raw material. In so doing, the indicators of the worst enterprises were pulled up, not to the level of the best but only to level of the branchwide data.

What are the named enterprises to do? Technically, the problem is clear: the high share of cast iron in the charge during converter melting must be reduced and the share of steel scrap must be raised. But not everywhere is this work being done actively. What are the supervisors counting on? A revision of the standards? But this would be tolerance of the nonrational consumption of raw materials. We cannot resort to that. Moreover, broad rights were not given to enterprises with a view to proving "the correctness of wastefulness." **Only the right to effective management can and should be upheld.**

On the whole, it must be said that when economic norms are developed, our specialists have striven to consider the demands of the Statute on Enterprises as fully as possible. However, we received a number of rebukes in a recent report by the Commission on Improving Control,

Planning, and the Economic Mechanism. We were rebuked in particular for the fact that some enterprises were released from transferring resources to the ministry's reserve and centralized fund and also for the amounts of these deductions at certain enterprises. All the commission's rebukes have been considered.

[Question] All the questions were resolved?

[Answer] Not by far! Negative factors were revealed, not everything turned out right when economic standards were developed, and still not everything is turning out right during the preparation for and conversion of enterprises to full economic accountability and self-financing.

In particular, it has not been possible for all enterprises to support the principle of the "earnability" of funds for technical and social development, even though the share of profit that remains at the disposal of the enterprises is different: For 62 of them it is less than 25 percent, for 89 it is 25-50 percent, and so on.

Right now we are working intensively to provide a "starting impulse." We are talking about an industry program for making the financial status of enterprises healthy. In accordance with a decision of the industry's Commission on Improving Economic Operations, such programs were made up for associations and enterprises. They call for a reduction in the shortage of working capital from 400 million rubles at the start of 1987 to 150 million, that is, by 250 million rubles. The routes for improving financial health were defined: the receipt of above-plan profit, compensation for the authorized involvement of 130 million rubles of working capital for overhaul, a reduction of above-plan reserves of valuable commodities and materials to the planned amounts, and so on.

It should be noted that the financial situation is being improved systematically. During the first nine months of the year, above-plan profit was obtained. The shortage of working capital has already been reduced to 160 million rubles, an overspending of funds allocated for overhaul has been made up for, and the reserves of valuable commodities and materials at most enterprises does not exceed the standard level. And, as a result, payments discipline has been improved.

It would be possible to advance even farther on this path, but a number of enterprises (the Dnepropetsstal and Amurstal plants, the Azerbaijan Pipe-Rolling Plant, the Khartsyzsk Pipe Plant, the Karaganda and Kommunar combines, and Zaporozhstal), which did not meet the plan for production and profit, have complicated the financial picture.

Today the complicated situation at these and other enterprises is being analyzed at meetings of the industry's commission, and steps are being taken to make good the debts and to strengthen the financial position of the enterprises.

The problems of eliminating the unprofitability of various types of output and of reducing the number of unprofitable and poorly profitable enterprises are getting special attention. This work also is being conducted under special programs and schedules. They call for, in particular, a reduction in the number of unprofitable enterprises from 31 in 1987 (last year, incidentally, there were 45) to 13 in 1990, and of total losses, respectively, from 242.4 million rubles to 119 million. It should be stated more precisely: the unprofitability of the 13 enterprises that will remain at the end of the five-year plan is occasioned basically by the introduction of new facilities into operation and by the necessity for assimilating design capacity, for which, naturally, a certain amount of time is required.

[Question] Aside from the "starting impulse," there is still the problem of a leveling of the "starting position." How is that being resolved?

[Answer] Yes, actually, the problem has not been one of the easy ones: enterprises are converting to the new situation on different technical levels and nonidentical social bases. Aside from the subjective factors, there are also those that are completely objective: the age structure of the fixed capital of metallurgical enterprises is extremely diverse. And this is understandable, because for many years capital investment had been aimed mainly at new construction and active enterprises have not been updated but have obsolesced.

Many production facilities have obsolesced, especially at Ukrainian and Urals enterprises: the Asha, Alapayevsk, Nizhniye Sergi, Salda, Satka, Staroutkinsk, imeni Petrovskiy, Yenakiyevo, Kommunar, Makayevka and certain other plants and combines.

Most enterprises of the coke-byproduct and refractory branches also have obsolesced. And new facilities are operating right alongside them. Naturally, they are different also in social development. But it must be said frankly: even at new enterprises it still has not been possible to reach the standard level of social support for the workers.

Such is our "starting line." But with the establishment of standards, the principle of creating equal responsibility and motivation for making use of productive capital and labor resources and for increasing profit has been pursued. Because of this, the standards for forming economic-incentive funds were established to take into account the level of wear and obsolescence of equipment and the prevailing situation in regard to providing workers with social and cultural facilities.

The standards for payments for capital were differentiated to take into account the age of the equipment, the level of profitability, and the amount of profit obtained. They were set at the 2 percent level for 51 enterprises, 6 percent for 69 enterprises, 12 percent for 123 enterprises, and so on. We consider that it would have been correct to release a portion of the enterprises entirely from payments for capital and labor resources.

A standard for payments into the budget was established for all enterprises, except for those that are poorly profitable or operate with a planned loss.

It is important that the share of capital investment aimed at reequipping and at rebuilding existing production facilities grows more than 1.5 fold in 1988 over 1981. Capital investment is being increased sharply for development of the social sphere, primarily for housing construction and for expansion of the network of children's preschool institutions. Thus it is planned to introduce 28 million square meters of total living space in 1988 and another 3 million in 1989, versus 2.4 million square meters in 1986.

The volume of construction of children's preschool institutions, general-education schools, hospitals, polyclinics, and other facilities for social and cultural purposes, will be increased considerably.

For this purpose, measures have been adopted for developing the in-house method of construction. The amount of work done by this method during the 12th Five-Year Plan will be increased 1.6-fold over the level of the 11th Five-Year Plan. In 1988 the amount of such operations will be 565 million rubles' worth versus 370 million in 1986.

Since, under the new system, enterprise management will be released from centralized planning and will resolve independently the problems of reequipping departments and units, undoing bottlenecks, social development, and so on, the success of the job will depend upon the workers' participation in solving all problems, mobilization of the enterprise's whole engineering corps and complete utilization of their knowledge and the workers' experience, and the level of the states of organization and discipline.

[Question] But, in order that all workers may become involved in solving problems that arise, there obviously must be a qualitatively new level of economic work at the enterprises—an internal economic mechanism is needed that will orient one and all to the achievement of high final results. What is being done in this area at enterprises and what methodological help is the ministry extending to plant economists?

[Answer] We considered that, under the new management system, the role of the enterprises' economic services should grow sharply. In order to intensify coordination of their activity, it was decided to grant chief

economists the status of first deputy director of their enterprises and to subordinate the economic planning section, the financing section, the scientific work organization section, the laboratory for scientific research in economics, and certain other services to them.

Training in economics that should cover all personnel—from the worker to the minister and his deputies—has been developed over a broad front at all levels. At the end of the year, a check is to be made of the economic knowledge of all supervisory workers and specialists of the ministry's staff.

Economic standards, as has been said already, have been brought to the enterprises. The state's orders, the ceilings, and other baseline data are well known there. In the near future, work on concluding contracts should be completed. Certain methodological papers, including an agreement on the delivery of ferrous-metallurgy output, also have been delivered to the enterprises. Work is being done with USSR Gosstab on concluding agreements with enterprises for the delivery of output in 1988, for which the amounts and variety of deliveries are set in accordance with state orders and intraindustry cooperation.

Work with other standards-methodology papers (on the procedure and deadlines for developing five-year and annual plans for economic and social development, the standard for distributing profit, the procedure for forming and using economic-incentive funds and the wage fund, and so on) has been delayed somewhat. But this has not been our fault—the development of model documents by USSR Gosplan and USSR Minfin [Ministry of Finance] have been held up unjustifiably. Only just recently were they approved by the Commission on Improving Control, Planning and the Economic Mechanism, as has been reported in *Ekonomicheskaya Gazeta*.

The development of economic norms and their delivery to scientific-research institutes and to science-and-production administrations that include scientific-research institutes have been delayed for the same reason.

Work continues at the enterprises today on improving economic accountability within the production facility, developing brigade economic accountability, and restructuring intraplant planning in accordance with the requirements of the new economic mechanism. The standards method for forming wage and material-incentive funds within structural subunits of enterprises is being introduced.

Wage systems are being improved with a view to increasing the material motivation and responsibility of worker collectives by their meeting orders for deliveries, improving output quality, reducing production costs, and increasing profit and labor productivity.

The experience of the Novolipetsk and Magnitogorsk metallurgical combines, which have converted since the start of this year to full economic accountability and self-financing, is being used widely in preparatory work. Brigades of specialists from other enterprises of the industry are visiting them constantly. The combines' operations are being analyzed in detail.

Methodological papers and the statutes that govern operation of the Novolipetsk and Magnitogorsk metallurgical combines under full economic accountability have been sent for to all the industry's enterprises for study.

Both combines are successfully meeting their goals for producing output, labor productivity and profit.

In brief, everything would be well, but.... Neither combine is coping with the chief indicator—fulfillment of commitments to deliver output. In so doing, the level of execution of delivery orders has even been reduced versus the corresponding period of last year.

Here, of course, the greatest fault lies with the enterprises' supervisors, and we are now analyzing the causes of the failure.

Further improvement is needed in the system for distributing profit obtained above the five-year plan goals. Today, deductions into the economic-incentive fund are being made under the very same standard for both planned profit and additional profit obtained.

At the Chelyabinsk Pipe-Rolling Plant and the Pervouralsk New-Pipe Plant, for example, under standards for distributing settlement profit from each million rubles of additional profit that are differentiated by enterprise, there remains at the disposal of the respective enterprises 200,000 and 350,000 rubles, and, at the Novolipetsk plant 750,000 to 810,000 rubles. This situation places labor collectives under unequal circumstances for incentives.

For above-plan profit, I think it would be correct to establish a distribution standard that is the same for all enterprises, for example 70 percent to remain for the forming of enterprise funds and 30 percent for transfer to the budget and the ministry's reserve. However, it still has not been possible to effect this solution.

The system for punitive sanctions, which now are excessively rigid, in our view, should be regularized.

Standards for distributing profit have been brought to the enterprises, and the ministry continues to work on them, in order to provide for fulfillment of the economic indicators decreed on the basis of them. Ministry specialists under a deputy minister have just now examined

these questions in detail directly at a number of Ukrainian enterprises. Possibly, as a result of this work we and USSR Gosplan will have to resolve some questions of financing and the realization of capital-construction plans.

There are also other questions whose solution will promote further successful work of enterprises, based on the principles of full economic accountability. They undoubtedly should be examined from the standpoint of the Statute on the State Enterprise (or Association).

11409

INVESTMENT, PRICES, BUDGET, FINANCE

Economists Interviewed on Credit, Financial Policy Reform

18200038 Moscow IZVESTIYA in Russian 12 Dec 87
p 3

[Interview with V. Belkin, doctor of economic sciences and member of the Council for Scientific Methodology of the USSR Ministry of Finance, and A. Kazmin, candidate of economic sciences, by unnamed IZVESTIYA correspondent: "Managing Production With the Ruble?"; date and place not given]

[Text] The radical financial-and-credit reform was referred to at the June (1987) Plenum of the CPSU Central Committee among the most important tasks in radical restructuring of management of the economy. The CPSU Central Committee and USSR Council of Ministers have adopted decrees calling for substantial changes in the financial-and-credit mechanism. The proposal calls for making the transition to compiling 5-year financial plans, placing relations between the budget and enterprises on a normative basis, and introducing cost accounting (khozraschet) in bank institutions at the lowest level. Reorganization of the banking system has begun, and within that system sectoral banks—Vneshtorgbank, Promstroybank, Agroprombank, Zhilsotsbank, and the Savings Bank—will function in addition to USSR Gosbank, the country's main bank.

For all the importance of these measures—they represent only the first stage of the reform. Many problems which have been accumulating in the sector of finance and credit are still waiting for their solution. It is no accident that it has become necessary to draft by the end of 1987 a specific program to restore the economy to financial health. What problems must be solved in the process of the reform? What directions should be covered by the program for restoring the financial health of the economy?

V. Belkin, doctor of economic sciences and member of the Council for Scientific Methodology of the USSR Ministry of Finance, and A. Kazmin, candidate of economic sciences, answered the question of a correspondent of *Izvestiya*.

[Question] The present time is a time of building the new economic mechanism. In your opinion, what is the place of finance and credit in that mechanism?

V.B.: The essence of creating the new mechanism lies in the transition from administrative methods of management to methods which are economic. Management with economic methods ultimately means management by means of money. Finance, credit, prices, taxes, in short, value instruments—are the most sensitive in the entire set of management "tools." The present system of specifically assigned physical targets and allocated supply of materials and equipment has given them, and now gives them a secondary role, and sometimes in fact even ignores them altogether.

In the new economic mechanism money flows must anticipate and bring about the functioning of physical and labor resources. This kind of management best corresponds to the principle of democratic centralism. It is free of localism and departmentalism. While it strengthens the principle of centralism, it does not infringe on the cost-accounting independence of production entities.

But if management is to be accomplished by means of money instruments, the importance of a universal equivalent has to be restored to money. That in turn means increasing and supporting the balance between goods and money. At the present time, it is seriously disrupted. A gap has occurred between effective demand and its physical counterpart. The reasons for the imbalance between goods and money are diverse. As for goods, here the cause lies in various kinds of losses, the wastefulness of the supply of materials and equipment based on allocated stocks and investment limits. The credit-and-financial system has itself made no small "contribution" to the money imbalance, and it is still doing so.

[Question] How can that be? After all, there are strict instructions regulating financing with credit and appropriations. And if sometime money is spent at an enterprise for other than the "stated purpose," every kopeck is presumably strictly accounted for in the bank.

V.B.: It is not a matter of keeping records, but of the excessive money that regularly goes into the economy from the credit-and-financial system. Not only does this not contradict the rules and instructions that are in effect, it in fact is fully in conformity with them.

[Question] But then if we start from the logic of a planned economy, the credit-and-financial system itself must possess excessive money. But where would it get that "surplus" money from?

V.B.: That is a paradox, but the "surplus" money goes into the budget. The turnover tax, which represents about a fourth of the revenues of the state, is collected and paid into the budget regardless of whether the commodity has been sold to a final consumer or has remained in the warehouse. What is more, enterprises make payments on the basis of planned profit, not actual profit. Indeed even the deadlines for making the payments are not in line with the length of the production cycle. And it turns out that the money has already been transferred to the budget before the commodity has even been sold.

[Question] But where does it ultimately come from?

A.K.: In all such cases the budget's revenues are formed on the basis of loans from Gosbank, which is responsible for the cash transactions of the state budget. According to available estimates, credit represents approximately one-fourth of the revenues paid into the budget. A system of relations in which Gosbank guarantees financial authorities that payments will be made promptly into the budget, and guarantees enterprises that those payments will be made on schedule, engenders irresponsibility all the way around on both the part of financial and credit authorities as well as enterprises.

[Question] But where did these relations between finance and credit come from?

A.K.: In my view, the formation of a sizable portion of budget revenues from short-term loans from Gosbank was designed to guarantee that the state budget would not operate at a deficit.

Such a system was justified as a temporary system that would operate under exceptional conditions. The elimination of the budget deficit in the years of the NEP under the conditions of the economic and financial blockade. This was a solid achievement of the young Soviet state. But the balanced budget achieved in that way began to be treated later on as a feature inherent in the socialist mode of production, a kind of advantage of the socialist budget system over the capitalist system.

The spread and establishment of this viewpoint also had an undoubted effect on formation of the present budget system. Its end—the balanced budget—began to be used to justify whatever means were required. As a consequence the budget ceased to reflect the true state of affairs in the economy. For example, in 1981 the grain harvest was the smallest over the past 20 years—156.2 million tons. For the first time in all the years since the war there was no growth in per capita real income. Yet at the same time the surplus of revenues over the expenditures of the state budget also reached a record—10.8 billion rubles! The external indicators of the budget which appear to be favorable can conceal its unbalanced state. This kind of orientation "toward indicators"

relieves the financial system of the need to exert pressure for higher economic efficiency in order to guarantee real rather than borrowed budget revenues.

The erasure of the boundaries between finance and credit, creating the appearance of soundness in the financial sector, has been having an adverse impact on the state of credit relations and the circulation of money. As noted at the 27th CPSU Congress, credit has lost its purpose. And so long as Gosbank covers the deficiencies of the financial system, it will not be possible to substantially repair credit relations.

[Question] What needs to be done to correct matters?

A.K.: In my view, one of the main problems of the credit-and-financial reform that has now become necessary is to decisively draw the line between finance and credit.

V.B.: The bank's economic and juridical independence is one of the conditions for normalizing credit. Another very important condition is replacement of the supply of equipment and materials on the basis of allocations by wholesale trade; otherwise it is not possible to achieve credit repayability. In the system of product distribution on the basis of allocations, suppliers do not choose consumers, and if the latter lack money, the bank in essence makes settlement for them by extending credit whose repayment is not guaranteed. Restricting the issuance of credit would in this case have the result that enterprises supplying products to consumers who are not creditworthy would themselves end up without money. Given the unreliable supply of materials and equipment, it is also impossible to halt the credit financing of production stocks. This would create the threat of shutting down production. With the transition to wholesale trade in products for production and technical purposes it will be possible to implement a restriction (confiscation) of means of payment invested in excessive stocks so as to provide a better balance between the circulation of commodities and the circulation of money.

[Question] But there are enterprises operating at a loss. If a line of demarcation is drawn, as you suggest, between finance and credit, this will mean financial ruin for them; after all, no real bank would undertake to support a losing activity.

A.K.: As a matter of fact, no bank in the world has as much human understanding as ours! Not only does it pay all debts by issuing loans, it also gives last priority to repayment of the credit: after the payment of wages, payments into the budget, and settlements with suppliers.

To be sure, this "generosity" on the part of the bank is not a benefit at all: it has been undermining the foundations of credit. Instead of that kind of altruism, we need to introduce cost-accounting equivalent relations between the bank and enterprises. To that end, order of

priority of payments based on the calendar is being introduced as of January 1988, which means that debts to the bank will become just as important for the enterprise as obligations based on wages, payments into the budget, and so on. So that tightening the system of credit financing does not result in "a chain of nonpayments" in the absence of "own" resources and the right to take credit, enterprises will make settlements to suppliers out of the resources of the superior organization on a repayable basis. This measure is called upon to enhance payment discipline and the responsibility of ministers for the results of the activity of subordinate enterprises.

Nor can the banks operate on the basis of cost accounting without a solution to the acute problem of allocating enterprises working capital of their own at the starting point of the financial-and-credit reform. Otherwise credit, just as before, will inevitably be called upon to cover the financial lapses of enterprises. The banks must correspondingly also be allocated resources of their own sufficient for normal credit financing of the economy, and they must have the right to increase the proportion of their own resources in proportion to the growth of the volume of credit extended.

Moreover, it is essential to establish in legislation the standard proportion that would be allowed between the own resources of the banks and the volume of loans outstanding. The one-sided orientation toward obtaining as much profit as possible makes the banks still less discriminating in issuing loans, and this results in a new splash of credit expansion, a growth of the excessive means of payment in circulation, and a drop in the purchasing power of the ruble.

[Question] The role of the banks increases immeasurably under those conditions. Certain functions of sectoral ministries are even to be transferred to them. Is this realistic?

A.K.: But it is no accident that precisely now the banks have been granted the right to declare that an enterprise is not creditworthy if it has regularly been failing to repay its debts.

As soon as the bank acquires the monopoly right to declare that an economically independent enterprise is not creditworthy, then it is indispensable to adopt legislation vesting in the bank the same monopoly right to decide the question of the possibility and conditions for the conversion of that enterprise to self-support and self-financing. If it is to have the "moral right" to declare an enterprise bankrupt, a bank must first give evidence of the level of the enterprise's readiness to operate on the basis of self-support.

There is no such procedure at present. Enterprises are not making the conversion to self-support individually, but as a rule by entire sectors, within which there are many operating at low profitability or at a loss. The

bank's recommendation is not required for this conversion, it is merely faced with the fact. Organizational steps like this in the absence of a reliable economic basis could, as they say, be left hanging in the air. "Self-supporting" enterprises which did not get rid of their old debts will incur new ones. The present "financial collapse" of GPZ-1 and the "Frezer" Production Association, for example, was caused mainly by the fact that the sectoral ministries did not prepare enterprises for the conversion to self-support, they took a formalistic attitude toward this, as though this were an ordinary campaign in which one simply needs to be among the first. There is no other way to explain the decision to convert to self-support enterprises which for a long time had been in a serious financial embarrassment. The lesson needs to be drawn from the mistakes that already have been made.

[Question] What is your opinion about the advisability of reestablishing mutual credit financing between enterprises?

V.B.: In granting enterprises broad rights in managing their own affairs, their rights cannot be restricted in the maneuvering of their own money resources. If an enterprise has the need and the opportunity, it must be entitled to ship products to a consumer on the basis of deferred payment, that is, on credit, which is something that was eliminated in 1930. The reason at the time was the conversion to distribution of resources through allocation, and now the time has come to replace that with wholesale trade.

It would seem that there could not be any objections to commercial credit under those conditions? But there have been objections, especially by bank personnel. Commercial credit is perceived as virtually an attribute of capitalism. People forget that socialist state enterprises will be both the creditor and the borrower. They will extend credit and take credit only on the basis of their own resources. The introduction of commercial credit will make it possible to make the conversion on a contract basis to mutual debts related to the deliveries of enterprises. The total amount of this indebtedness is now about 100 billion rubles.

Legalization of commercial credit will also make it possible to bring into production a portion of the excessive physical inventories, to establish the necessary order in enterprise settlement, and to teach them to be responsible for their own obligations. Unless commercial credit is "restored its rights" it will not be possible to realistically expand the economic independence of enterprises.

In conclusion we would like to emphasize once again: the credit-and-financial reform must be carried out in an interrelationship and simultaneously with the other components of the radical economic reform: with the conversion of enterprises to full cost accounting, with replacement of allocation supply by wholesale trade, and with the price reform.

07045

POLICY, ORGANIZATION

Better Planning, Fast Construction of Projects Needed

18210001a Moscow *EKONOMICHESKAYA GAZETA*
in Russian, No 46, Nov 87 p 14

[Article by A. Prokopenko, head of the SOPS Sector of USSR Gosplan and O. Chernomorets, a USSR Gosplan deputy department chief, "The Outlook for Investment Planning", under rubric "The Construction Complex: A New Management System"; first two paragraphs are source introduction. Passages rendered in boldface are printed boldface in source article]

[Text] Not once during the years of Soviet rule has our nation had to resolve the problems of construction or renovation of large scale industrial projects in such an impossibly short time. Remember the construction of Dneproges and Magnitki from the ruins of the Donbass mines and the Zaporozhye metallurgical giant. For decades, foreign experts had the "lead" over us in new project construction and renovation, but we have overtaken them in the last few years. We achieved this not only through widespread mobilization of manpower energy, but also through skillful concentration of material and financial resources and sound choice of strategy for carrying out the work.

Now the nation's economy and the construction complex are faced with an enormous, complicated task — to achieve a fundamental reconstruction of the national economy in a very short time. In practice, what is the best way to meet today's demands? The authors of this article reflect on this.

We will begin with this fact: in its time, the Gorkiy Automobile Factory, one of the new construction projects of the 1st Five-Year Plan, was erected in only a year and half. Even today, this time period serves to discredit those designers and builders who, at times, drag out the construction of large scale industrial projects for 10, 15 or even 20 years. But in the investment system, a change for the better has already been noted and, though there are only a few, there are examples of rapid construction all the same. This is certainly comforting.

Equipment is installed in the giant framework of modular tall cranes at the Rzhev Crane Building Plant where only a year ago there was a swamp. Such speed is achieved by intensifying the work process itself, utilizing new advanced technology and designs, and combining planning and construction.

All this is undoubtedly evidence of the first successes on the path to reconstruction. Rapid construction, however, is still only half the problem. **Proper choice of what to build is the main thing.** What is the great benefit from rapid construction of an industrial project if it knowingly bears yesterday's mark?

Project reviews showed that in some industrial sectors nearly half of the projects were obsolete by the time they were finished. Yet many departments conducted their analysis as a formality so, in actuality, things are considerably worse.

According to USSR Stroybank data, 25 percent of the projects which were carried over to the 12th Five-Year Plan and which, according the findings of the ministries, address the problems of scientific and technical progress, were developed 10-20 years ago. Obviously, no comment about their technical level is necessary. In our view, a situation like this shows that the present system of investment planning does not ensure full coordination in the various stages between adoption and implementation of resolutions; the outlook is too narrow.

As the reviews showed, in the structure of the five-year plans, the majority of ministries have no approved lists of projects which fall under the planning for the 13th Five-Year Plan and for which the use of new technological processes, machinery or equipment with a lengthy development, design or manufacturing cycle is envisaged.

At the present time, the system of centralized capital construction planning includes four types of documents organized in the various phases of the process of creating new capabilities and projects: technical and economic base lists (TEhO), project lists, construction lists and construction title lists.

The TEhO list is developed as an outgrowth of the plan for development and distribution of the sectors of the national economy, industry, and regional production forces, and serves as the basis for preplanning and preconstruction work-up by the ministries and departments. This document must develop the solutions envisaged in the plan (including power) for the enterprise designated to do the construction, its territorial siting, the designation and quality of goods produced and other technical and economic indicators. This means that the TEhO must itself include all the advanced, progressive and primary issues — the long term issues in the area of technology, equipment and material. Does the designer take such long range development into account? Hardly.

Today, he knows in detail only about those things which will be ready for production in the near future, and he gets some information from the applied sciences about technological developments, designs and materials. There is, however, **absolutely no connection between the "planner and the fundamental science"** which could ensure not only a forecast of tomorrow's level of production but also the most advanced output.

As a result, the equipment and technology toward which today's project-planner is oriented when developing the TEhO are outdated at the moment the project is developed. The project ideas are reviewed during planning work, but the projects, in turn, are reviewed during the

actual construction. That is the way USSR Minlegprom began construction of eight new shoe factories. An analysis of the technical and economic indices which was conducted by USSR Gosplan showed that the technical level of these factories does not meet modern, worldwide achievements in the shoe industry. The technological equipment, according to its specification, lags behind foreign equipment, the level of manual labor is still very high, and automation of loading and unloading and transport is minimal.

Just what needs to be done to guarantee actual production output at a higher scientific and technical level? It seems to us that the needed measures are:

first of all, to define this level concretely in terms of quantity and quality in order to **work out long-term (15 years spread out over the five-year plans) progressive indices which set the minimum allowable technical and economic level of new enterprises and projects** and which ensure for future industrial sectors the fulfillment of long range tasks for growth of labor productivity;

and secondly, to introduce into investment planning in practice **full-process planning of scientific and technical progress.**

Why do we begin by giving concrete definition to the technical level? For the very reason that this natural requirement frequently is not being met now.

For example, last year, USSR Minlegprom developed and approved a project to expand the Khorolskiy Mechanized Plant. The project was scheduled to begin in 1988 and reach designed capacity in the 13th Five-Year Plan. Under the project, labor productivity was expected to increase by a factor of 1.5 (output growth from 10.7 to 16.8 thousand rubles per man). At the same time, according to primary long range indices developed by the ministry, labor productivity in the industrial subsectors is reflected by the following values: in the 12th Five-Year Plan, output per worker must reach 19.5 thousand rubles and 24.5 thousand in the 13th. Additionally, according to its own main parameters, the project envisaged output at a level corresponding to the 1970's. Consequently, neither the plants products nor the primary indices will ensure output at the technical and economic level of even the 12th Five-Year Plan.

All of this testifies to the fact that the **"boundaries" of investment planning must encompass all phases in succession from basic scientific research work, which guarantees a theoretical base for achieving a given level of scientific and technical progress, to the mastery of newly introduced production capacities.** For this reason we cannot be constrained by the limits of one five-year plan. After all, more than 60 percent of production-designated construction projects begun earlier and costing 4 million rubles or more "migrated" from the 11th to the 12th Five-Year Plan.

This broadening of the outlook can also ensure that full process planning for scientific and technical progress is carried out. The essence of this lies in the following:

The adoption of a planning resolution about each specific new large scale construction project must be based on a TEhO which takes into account the long range development of equipment and technology in the industrial sector. The industrial sector's science, as a specific example, gathers and organizes long range developments in basic domestic and worldwide science; evaluates the possibility of utilizing these developments; and, on the this basis, works out a recommendation for employing new equipment and technology in future enterprises. It is clear that, according to the listing of long range construction projects, the beginning of this work must put off for another year the development of technical and economic base documentation.

This is not all, however. Experience shows that full process planning of a project does not, in many cases, include its construction, so a decision about full process planning is made without clear knowledge of which enterprises and facilities actually will be building it in the future. For this reason, a significant number of projects turn out to be unnecessary while projects under construction, from the beginning of construction, rarely are guaranteed high-quality project estimate documentation. This leads to a "messy" preparation phase and significant financial losses.

In our view, the way out of this lies in adopting two types of long range resolutions for each new construction project:

a preliminary resolution on the conduct of scientific research and project design work, and development of the TEhO;

and a final resolution on full process planning and construction, and also on the conduct of a whole complex of preparatory work.

Implementing this approach requires, along with the lists of construction jobs for the five-year plan which is laid out, a list of jobs whose construction is intended to start in the following five-year plan; that is, a list of long range construction jobs. The latter must be prepared as an outgrowth of the concepts for economic and social development of the USSR, the main directions for economic and social development of the USSR, the plan for development and distribution of sectors of the national economy, industry, and regional production forces, the resolutions of controlling organs, and long range long-term indices of the technical and economic level of future enterprises and facilities. Inclusion of long range construction projects in the lists can serve as a preliminary resolution on production capacities and facilities.

It requires a relatively small expenditure to conduct special purpose scientific and design work and, upon determining the volume of preplan tasks, the development of many versions must be practiced widely to best ensure high quality follow-on information for subsequent plan resolutions on full-process planning and construction.

The proposed approach to planning the construction of capacities and facilities also can be adopted in the ministries, departments, union republic gosplan organizations, and at the enterprise and organization levels. This will ensure unity of method in adopting plan resolutions on construction of capacities and facilities at the central planning level and the main administration key unit level. This will be particularly significant under conditions of enterprise and association self-financing.

13254

FOOD PROCESSING, DISTRIBUTION

Imbalances in Supply, Demand of Foodstuffs Illustrated

18270015 Moscow KOMMERCHESKIY VESTNIK in Russian No 20, Nov 87 pp 10-12

[Article by A. Khrenov, candidate of economic sciences: "At the Level of Present Requirements"; end of series of articles by the same author; beginning in No 14-19]

[Text] The last 10 to 15 years before the 27th party congress could be called the time of lost opportunities. In addition to the direct damage connected with the constant reduction in the rates of industrial development and lag in agriculture there was vast indirect damage even from the demographic growth—what the country, which has vast natural resources at its disposal, received less than envisaged and underutilized.

All this could not fail to affect the rates of development of the trade turnover and the population's provision with consumer goods. As a result of the measures taken by the party and the state, beginning in 1983 positive shifts occurred and the country's national economy developed more dynamically. However, it was not possible to attain the assignments of the 11th Five-Year Plan. During the 5-year period consumer goods worth 16 billion rubles were underdelivered and the total retail trade turnover volume increased by only 16 percent with 22 to 25 percent according to the basic directions approved by the 26th party congress. A balance between the population's growing monetary income and the commodity mass was not attained. All this led to an unjustifiably rapid growth of the money available to the population and of deposits in savings banks, which increased more than 2.4-fold.

Ensuring outstripping rates of labor productivity growth as compared with the rates of wage growth is an extremely important condition for ensuring an expanded reproduction, increasing the trade turnover, and on this basis raising the level of personal consumption. A prolonged failure to meet this requirement is inadmissible. In time the outstripping growth of wages and the population's monetary income has a negative effect on the entire economic life and gives rise to needs, which cannot be met. In 1985, as compared with 1970, national labor productivity increased 1.7-fold, but the wage fund more than doubled.

The 27th CPSU Congress, having thoroughly analyzed the reasons for the negative processes occurring in the country's social and economic construction, put forward the task of fundamentally changing the course of national economic development, overcoming difficulties, and ensuring society's accelerated advancement. The congress also mapped out the basic means of accomplishing this task, that is, to significantly increase the efficiency of utilization of the created production potential and to fundamentally accelerate scientific and technical progress and the transfer of all national economic sectors to the path of intensive development. This is a decisive restructuring of the economic mechanism and of the entire management system.

An acceleration of the country's social and economic development requires deep shifts primarily in the economy—the decisive sphere of human activity. Examining this problem, the party proceeds from the fact that an acceleration of economic development is not an end in itself, but only the means of attaining the goal—a steady advance of the people's material and cultural living standard.

Strengthening and increasing the efficiency of the agro-industrial complex and realization of the USSR Food Program are the most important conditions for the country's progress. A whole set of measures aimed at attaining a fundamental change and improvement in the food supply for the population as early as the current five-year plan have been implemented recently. In November 1985 the party and the government adopted a decree on improving the management of the agro-industrial complex and in March 1986, on improving the economic mechanism of management, which created, as early as at the beginning of the five-year plan, the organizational and economic prerequisites for the realization of the Food Program and fulfillment of the tasks put forward by the 27th party congress before the country's agro-industrial complex. The measures taken to strengthen the agrarian sector of the economy already give definite results. However, a marked improvement in the population's provision with food products has not yet been attained in many of the country's regions.

As is well known, the USSR Food Program was adopted in May 1982 and designed for the period until 1990. How did its realization proceed and what has to be done in order to ensure the fulfillment of assignments for the final result—rise in average per-capita indicators of consumption of the most important food products—can be seen from the table.

Per-Capita Consumption of Basic Food Products in the USSR

Products	1982	1985	1986	1990 (Food Program)	Norm	Level of Norm Attainment in 1990 (in %)
Meat and meat products	57	61.7	62.5	70	78	90
Milk and dairy products	295	335	332	335	405	83

Per-Capita Consumption of Basic Food Products in the USSR

Products	1982	1985	1986	1990 (Food Program)	Norm	Level of Norm Attainment in 1990 (in %)
Eggs	249	260	265	263	292	90
Fish and fish products	18.4	18	18.4	19	18.2	104
Sugar	44.5	42.2	44	45.5	40	114
Vegetable oil	9.3	9.7	9.8	13.2	9.1	145
Vegetables and melon crops	101	102	103	130.5	130	100
Fruits and berries	42	48	52	68	91	75

Meat and meat products, for which the population's need is not met fully in many regions, are the most important items. In a number of cities and industrial centers at workers' request different forms of rationing are applied. In order to attain the assignments of the Food Program for an average per-capita consumption of meat and meat products in the amount of 70 kg, in 1987-1990 it will be necessary to annually increase their consumption by approximately 2 kg, which is fully realistic. Nor is there any doubt about the fulfillment of the program's assignments for milk, dairy products, eggs, fish, fish products, and sugar, for which, in practice, the average per-capita consumption envisaged by the Food Program at the end of the five-year plan had also been ensured in 1986. The situation with fruits and berries and, especially, with vegetables and melon crops is more complex. Nevertheless, in all cases the standard level of consumption of basic food products can be attained beyond the boundaries of the 12th Five-Year Plan. The implementation of the Food Program should be considered a long-term measure, which is of a permanent nature.

It should be noted that the existing standard base of consumption of food products does not reflect the actual needs and requires refinements. They are especially important now, when the actual consumption and norms recommended by science have significantly come closer together and are becoming the guideline for planning the production of food products to an ever greater extent.

The realization of the Overall Program for the Development of the Production of Consumer Goods and the Service Sphere for 1986-2000 plays an important role in the improvement in the supply of high-quality industrial goods for the population. Its distinctive feature lies in the fact that it encompasses the production and sale of all nonfoodstuffs, as well as various types of services, and allied sectors providing raw materials, supplies, and equipment.

The program envisages meeting the population's effective demand for a group of industrial goods and during the subsequent period attaining rational norms of consumption of the most important articles. During 1986-1990 the production of nonfoodstuffs should increase no

less than 1.3-fold. The output of articles for cultural-domestic and household purposes is to be increased at even higher rates, which corresponds to the requirements for a rational consumption structure. As a result, the tendency toward an increase in the share of monetary assets, which the population will spend on the purchase of goods, will intensify.

From the point of view of a balanced development of the retail trade turnover assignments for the growth of paid services are important. They should increase 1.3- to 1.4-fold, which will lead to a certain weakening of the pressure on the trade turnover, since the proportion of the population's expenditures will increase and with it also the general correspondence between the supply of consumer goods and services and effective demand. This is a very important principle, because the tension in the balance of commodity resources and paid services and of the amount of money has become a distinctive limiter of economic growth. The structure of consumption has proved to be deformed in the direction of goods and the share of paid services has remained at an invariably low level—about 10 percent—for a long time. Such a situation decreases people's interest in highly productive labor and the shortage of the commodity market is a nutrient medium for all kinds of abuses.

The State Plan for the Economic and Social Development of the USSR for 1986-1990 attaches paramount significance to the expansion of the production of goods and improvement in their quality. From this point of view the assignments of the Overall Program for the Development of the Production of Consumer Goods and the Service Sphere were revised toward an increase. The increase is substantial: The output of nonfoodstuffs planned for 1990 is worth 16.3 billion rubles more than envisaged by the overall program and throughout the 5-year period their production will increase by 35, instead of 30, percent.

Nevertheless, the assignments of the Overall Program for the Development of the Production of Consumer Goods and the Service Sphere are not fulfilled satisfactorily. Deviations from and a reduction in plans, as compared to program assignments, are permitted. Essentially, the fulfillment of assignments is postponed to subsequent years. In 1986 the production of nonfoodstuffs was

reduced, although during the 12th Five-Year Plan there should be an annual growth of 5.4 percent. Nor are these rates ensured during the current year.

As was noted at the conference held at the CPSU Central Committee in May of this year, which discussed the tasks of party, Soviet, and economic bodies concerning an increase in the production of goods and development of the service sphere, the long-term nature of the overall program does not at all mean that it is permissible to put off the fulfillment of its assignments indefinitely. People have urgent needs and they must be met now.

Although nonfoodstuffs worth 1.4 billion rubles in excess of the plan were produced in the country in 1986, this was insufficient to meet the population's effective demand. Furthermore, only one-third of the envisaged list of goods was ensured at the level of the overall program. A total of 18 ministries and departments did not fulfill the plan for the output of articles for cultural-domestic and household purposes. The USSR Ministry of Communications, the USSR Ministry of the Radio Industry, the USSR Ministry of Instrument Making, Automation Equipment, and Control Systems, and the USSR Ministry of the Construction Materials Industry permitted the biggest lag.

In the last 2 years the output of wine and vodka products has been reduced to almost one-half and, at the same time, it has not been possible to fully make up for this with an increase in the production of goods necessary for the public, as well as paid services. To be sure, the restricted consumption of wine and vodka products leads to an economic gain from the reduction in losses caused by drunkenness. But this is a long-term process. For the state budget, however, losses have proved to be immediate.

We incur considerable losses owing to the fact that many sectors of group "A" do not establish specialized enterprises for the manufacture of goods. The assortment, finishing, reliability, and other consumer characteristics of output, obviously, do not correspond to workers' increased needs. This is confirmed by the notorious unmarketable and stale goods, which are annually recorded according to a census by state statistics bodies. The unsatisfactory quality of goods is the most serious negative factor in the effect on the trade turnover rate and on the general balance of the population's monetary income and expenditure. The introduction of state acceptance, primarily for durable goods for cultural-domestic and household purposes, exposed the quality problem in an especially graphic manner.

Restructuring for light industry and enterprises producing goods for cultural-domestic and household purposes results primarily in the restructuring of the assortment and in the demand to improve its quality.

We must not fail to note that head ministries responsible for meeting the population's demand and for pursuing a unified technical policy do little in this direction. As before, the production of domestic equipment at a large number of enterprises of a varying departmental subordination, which complicates and increases the cost of spare part production and repairs, is unjustifiably duplicated. Problems of providing the population with many goods for cultural-domestic and economic purposes, including the simplest ones, are not solved for a long time. To the same extent this also applies to light industry articles. According to last year's results this sector has not reached the outlined goals of the five-year plan.

Planned retail trade turnover assignments have not been fulfilled for a number of years, as a result of which the monetary circulation in the country becomes complicated. The results of work in 1986 under the conditions of application of new management methods in a number of sectors are especially important. Basic production indicators are higher than the average during the past five-year plan and higher than the 1985 results. The following basic conclusion can be drawn: There is an acceleration. Agricultural output increased by 5.1 percent. This is one of the positive results of the year, although the planned rate of growth was short by only 0.2 percent.

With regard to industry, the situation is much more complicated here. The actual increase in industrial output—4.9 percent—is higher than the planned average annual increase during the past five-year plan. However, this outstripping was attained only as a result of the accelerated production of means of production. The increase in the output of consumer goods—4 percent—was not only below the plan, but even below the rates in 1985, which directly affected the development of the trade turnover. In this connection the unfavorable processes in the foreign trade turnover should also be mentioned.

An urgent need for a fundamental restructuring of the mechanism of management as a whole, primarily of planning, has been revealed in the changing situation. At the same time, a differentiated approach to the change in the forms of planning and methods of management in various spheres of the economy is important. Such an approach has been clearly manifested during the solution of these problems as applied to the agro-industrial complex, light industry, and trade. The first experience in the introduction of new forms and methods of management and planning has shown that their universal popularization requires the creation of certain general economic prerequisites. They include primarily the provision of a balance of economic growth.

To combine the reform in the economic mechanism with the fulfillment of the assignments of the five-year plan is an acute problem now. The results of 1986 and of the past period of the current year, including of the retail trade turnover, point to the increasing intensity of

planned indicators during subsequent years of the five-year plan, which can aggravate its balanced development. It should be kept in mind that the five-year plan was developed under the conditions of the old system of management and inevitably contains its shortcomings. We face complex problems, whose solution depends on the extent to which it will be possible to master the new approaches in management and planning under the conditions of the new economic situation.

The decree of the CPSU Central Committee and the USSR Council of Ministers "On Improving Planning, Economic Incentives, and Management in State Trade and Consumer Cooperatives" was adopted in July 1986. It envisaged extending the rights of local soviets of people's deputies in the planning of trade development, in a closer coordination of the retail trade turnover with the population's monetary income, and in an efficient maneuvering of commodity resources, as well as the transition to the territorial principle of planning for these purposes. The decree requires a fundamental restructuring of the planning system so that it may make it possible to approach the placement of trade turnover volumes throughout the territory with a greater economic substantiation and to more fully utilize the data on the population's purchasing funds and modern methods of planning with the application of computer hardware. The necessary organizational prerequisites have been created for this. Beginning in 1987 councils of ministers of the Union republics plan the retail trade turnover and market allocations of goods throughout an autonomous republic, kray, or oblast without assigning trade systems. An exception has been made only for trade organizations and enterprises of the Ministry of Railways.

For example, in the Russian Federation for 1987 only two indicators have been approved for executive committees of local soviets: the retail trade turnover for balancing the population's monetary income and expenditure and the trade turnover without the sale of alcoholic beverages. Problems of determining the trade turnover of public dining, sale of local products, commission turnover of agricultural products of consumer cooperatives, and their distribution throughout city and rayon trade organizations are within the competence of executive committees.

Extensive work is ahead on generalizing the experience in the application of new methods of planning in trade and their more active introduction into practice in order to attain the highest results. Right now, however, it seems advisable to develop and approve a single trade turnover indicator at the level of the country and of the Union republics respectively. This will make it possible to more fully utilize the approved territorial balances of the population's monetary income and expenditure,

where the purchase of goods is determined for all directions. Now in the republic it is necessary to make additional calculations for excluding the proposed trade turnover volumes for petroleum products (the State Committee for the Supply of Petroleum Products is planned at the Union level and its trade turnover is not included in the trade turnover of the Union republics), which lowers the level of economic substantiation of planned retail trade turnover assignments. There is no need to determine in the Union plan assignments for industrial ministries concerning the trade turnover of firm stores. The realization of the indicated proposals will contribute to bringing the territorial principle of trade planning to its logical conclusion.

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PERSONAL INCOME, SAVINGS

Citizens Comment on Public Health Needs

18270021 Moscow. IZVESTIYA in Russian
26 Nov 87 p 1

[T. Khudyakova: "The Prescription? Financial Autonomy!"]

[Summary] Last week the CPSU Central Committee approved a decree to restructure the Soviet health system. Prior to this report, nationwide discussions in the press had taken place, at which time people aired their views on health care. Many suggestions which appeared in IZVESTIYA called for improvements in the areas of preventive care, construction of maternity homes, medical personnel training, mandatory periodic certification of doctors, wages, lines at out-patient clinics, and restructuring the medical sciences field.

Many letters to the editor proposed that an individual pay for medical services to counter the problem of poor treatment, ineffective medicines and long, drawn-out tests and checkups. Inadequate space at hospitals, inattentiveness among doctors and bribe-taking were also mentioned as failings.

The negative response to the proposal of paid medical services was astonishing: "Hundreds of angry letters contained arguments, historical references and concrete proposals." The majority of citizens argued that subsidized health services, guaranteed by the Constitution, should be retained at all costs. One person suggested a health care fund with private contributions from workers' organizations and from individuals. The money, he added, could then be used to achieve health care needs without introducing individual payment for services.

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FUELS

Oil, Gas Production Plans Outlined by Ministry Official

18220031 Moscow STROITELSTVO

TRUBOPROVODOV in Russian No 10, Oct 87 pp 1-9

[Article by Minister of Construction of Petroleum and Gas Industry Enterprises V. G. Chirskov, "On the Leading Edge of Fuel-Based Power Production"]

[Text] Seventy years ago a salvo from the cruiser Aurora announced the beginning of a new era in the life of mankind. The passing of time has profoundly revealed the permanent significance of the Great October Socialist Revolution.

The revolution became an unparalleled flight of historic creativity for the masses and an hour of triumph for a victorious people. The October Revolution established radically new principles for people's social conditions, i.e. the power of the workers—in politics and public ownership of the means of production—in economics, collectivism and comradely mutual aid—and in human relations. These revolutionary reorganizations comprise the basis of the principles and the inexhaustible well-spring of socialism's vitality.

In the course of socialist construction, the Land of the Soviets has been transformed into a major industrial power with vast economic and scientific and technical potential.

And the Great October Revolution goes on in our present-day achievements.

An essentially revolutionary constructive effort is being carried out in this country, the goal of which is to accelerate the progress of socialist society. The decisions of the 27th CPSU Congress of the January and June 1987 Plenums of the CPSU Central Committee are mobilizing the Soviet people to make profound reforms in the country's economy.

The changeover of the economy onto a course of intensification is directly related to the improved efficiency of the work of the fuel and energy complex sectors, which have been called upon to steadily meet the country's demand for all forms of fuel and energy.

Plans call for our country to be producing 625-640 million t of oil with gas condensate as well as 835-850 m³ of gas. Minneftgazstroy subdivisions are setting up the capacities for recovering these valuable raw materials and fuel in these volumes, preparing them for transport and delivering them over long distances.

Oil and gas industry enterprise construction workers have focussed their efforts on meeting the targets set for the 12th Five-Year Plan period. This is vital to the

program of acceleration. Workers from Minneftgazstroy organizations and enterprises and other sectors are striving to make their own contribution to ensuring a qualitative advance in the economy and in creating solid backlogs for future use.

In the competition for a worthy greeting to the 70th Anniversary of the Great October Revolution, tens of thousands of workers from Minneftgazstroy organizations and enterprises displayed genuine patriotism, a business-like attitude and skill. For putting the Yamburgskiy Field into operation ahead of schedule, a large group of the sector's workers were decorated with USSR orders and medals and the brigade leader of of the Sever-1 complex, B. P. Diduk, was awarded the title of Hero of Socialist Labor.

Pace-setting sectors include the collective from Lengazspetsstroy (Leningrad Trust for Special Gas Construction), the pipeline construction spread headed by Hero of Socialist Labor I. G. Shaykhutdinov, M. P. Poleshchuk's brigade of finishing workers, V. I. Brizkun's brigade of installers, who initiated the competition in honor of the anniversary of the October Revolution and the brigades led by Yu. I. Kildyushov and A. F. Shev-koplyas, who completed the installation of equipment on UKPG-5 [Complex Gas Preparation Plant] in Yamburg ahead of schedule.

The following successfully overfulfilled their obligations: V. G. Sinyukov's brigade (SMU-2 [Construction and Installation Brigade-2], of Lengazspetsstroy), V. G. Sosnov's brigade (SMU-52, of Kholmogortruboprovodstroy [Kholmogorskiy Pipeline Construction Trust]) and A. D. Tkachenko's brigade (SU-16, of Surgutruboprovodstroy [Surgut Pipeline Construction Trust]). They fulfilled the plans for two years of the five-year plan not in October, as scheduled, but several months early.

Spreads from Glavtruboprovodstroy [Main Pipeline Construction Administration] and Glavyuzhtruboprovodstroy [Main Southern Pipeline Construction Administration] took every possible step to ensure that gas was pumped along the Makat-Severnnyy Kavkaz pipeline by the anniversary of the October Revolution. Ukrtruboprovodstroy [Ukrainian Pipeline Construction Trust] subdivisions put the Velikiy Anadol-Melitopol oil-products pipeline, with the branch line to Berdyansk, into operation ahead of schedule.

Line work on the 2,400-km section of the Progress Gas Pipeline route from the Pravookhettiinskaya Compressor Station to Yelets was completed two months ahead of schedule. This showed that the spreads from Glavsibtruboprovodstroy [Main Siberian Pipeline Construction Association], Glavvostoktruboprovodstroy [Main Administration for Pipeline Construction in the Far East] and Glavtruboprovodstroy [Main Pipeline Construction Administration] were true to their word. In

honor of the glorious jubilee, workers from the GDR completed the line work on their section of the Progress gas pipeline ahead of schedule.

Glavyamburggazstroy [Main Yamburg Administration for Gas Enterprise Construction] collectives are successfully carrying out construction of the Yamburg Field.

The worthy greeting to the 70th Anniversary of the Great October by Minneftegazstroy workers is not embodied only in the facilities they have put into operation, in the continued raising of their level of organization, in their discipline or in their development of democracy within the collectives. It is primarily embodied in the level attained by the sector, the tremendous scientific and technical, economic and social potential which allows it to implement large-scale programs aimed at developing the oil and gas complex, to be on the leading edge of fuel-based power production and to solve the strategic problems of the Soviet economy. This potential has been attained thanks to the constant assistance given by the Party and the government to the sector's construction projects, thanks to the huge contribution made by oil, gas, metallurgical, machine-building and chemical industry workers, and as the result of the selfless labor of all the construction workers and designers, mechanization specialists and scientists.

How did it all begin? In pre-revolutionary Russia there were a total of roughly 1,200 km of oil pipelines. No gas pipelines at all had been constructed. Pipeline building in our country underwent extensive expansion only after the Great October Socialist Revolution, and it is associated with the name of V. I. Lenin.

In March 1920 in the height of the civil war and foreign intervention, Vladimir Ilyich signed the Soviet of Workers and Peasants Defense decree, which dealt with the construction of an oil pipeline from the Emba oil-bearing region to Saratov. At the same time, the laying of the Aleksandrov Gay-Emba Railroad was called for. V. I. Lenin took a vital interest in the progress of the work on the unified construction project, the name of which was shortened to Algemba. However, in the economic dislocation which then existed, it was decided not to bring this plan to fruition. Due to shortages of pipe and the complicated wartime situation, construction of the oil pipeline was brought to a halt.

Following the end of the civil war, V. I. Lenin's precepts concerning the development of the fuel industry and the setting up of pipeline transport began to be systematically realized. In 1941 the country had about 4,000 km of various types of pipelines. During the Great Patriotic War, the builders of the underground mains solved problems related to war strategy and, in a display of genuine heroism, increased the pipeline system by 1,500 km. A great many fundamental principles related to the organization and production methods for constructing

oil and gas mains were posited during the construction of the war-time pipeline routes, and were further developed during the period of peacetime construction.

The laying of the 800-km, 325-mm diameter Saratov-Moscow gas pipeline, which has a working pressure rating of 5.5 MPa, constituted a new stage in the development of domestic pipeline construction. The organizational fundamentals and the procedures for laying main high-pressure gas lines were set forth on this pipeline route, which is thought of as the gas industry's first-born. Here, too, the main directions to be taken in devising special-purpose equipment were determined, and here the pipeline-building work-force was trained.

The complex mechanization of pipeline construction had its beginnings on the Stavropol-Voscow route, which was the first gas pipeline to use 720-mm diameter pipe. Utilization of large-diameter pipe and increased-output pumping units began thereafter. The principal volumes of construction work moved to the difficult-to-reach areas of the country. The Bukhara-Urals pipeline, which was the first gas pipeline built completely of 1,020-mm diameter pipe, passed through deserts and the Ustyurt Plateau. The Ordzhonikidze-Tbilisi pipeline—the first pipeline in domestic practice to be laid in tunnels—crossed the Main Caucasus Range at an altitude of 2,450 m. The Shaim-Tyumen and Igrim-Serov pipelines, which were the first pipelines in Western Siberia to be used for long-distance transport of oil and gas over considerable distances, passed through marshlands. The Ukhta-Torzhok pipeline was the first 1,220-mm diameter gas pipeline. The first oil pipeline to use this size pipe was the Aleksandrovskiy-Anzhero-Sudzhensk pipeline. Along with the 1,020-mm and 1,220-mm pipe used on the multi-line Central Asia-Center gas pipeline system, 1,420-mm pipe has already been used.

And on every occasion, better quality construction has been preceded by in-depth theoretical and experimental research, the development of special complexes of machines and mechanisms, improvements in working procedures and organization and training of the work-force. Increased construction volumes and the forging ahead into regions with extreme natural conditions have dictated new and increased demands on oil and gas main construction. A theory for calculating the longitudinal stability of large-diameter main pipelines was developed and design resolutions were suggested. Construction of large-diameter pipelines was organized scientifically.

It should be emphasized that ever since the very beginning of domestic pipeline construction, we have pursued a policy of forming interrelated unified systems of underground mains, of building them of high-pressure large-diameter pipe and of promoting organization and procedures for constructing them at accelerated tempos.

At present, the country has a main pipeline network in excess of 270,000 km. It was expanded by 100,000 km during the 10th and 11th five-year plan periods alone.

and the load turnover of the pipeline systems increased 4-fold. Unified gas- and oil-supply systems have been established and regional oil-products pipelines have been set up.

The Center's underground mains stretch from the Krasnodar and Stavropol krais to Moscow, Leningrad and the Baltic republics. The Urals system, which begins in the Bukhara-Khiva and Turkmen gas areas, passes through Karakalpakia and Kazakhstan and the industrial centers of the Urals and then connects up with the Tyumen Oblast fuel flows. The East Ukraine, Volga, Caucasus and Transcaucasus and the Central Asian gas systems are in operation. Oil and gas are also sent abroad through our pipeline arteries. The Druzhba oil pipeline system has been in operation since 1964. The Bratsvto, Soyuz and Urengoy-Pomary-Uzhgorod gas pipelines are in operation.

The 1,420-mm diameter six-line transcontinental gas pipeline system from Western Siberia, which is unique technically and with regard to its engineering features, was completed ahead of schedule during the 11th Five-Year Plan period. Its overall length is in excess of 20,000 km, and it has a throughput capacity of 200 billion m³ of gas per year. Each 1,000 km of pipeline equals 0.7-0.8 million t of metal and 50 million m³ of excavation work. The total capacity of the compressor stations—at the present Dneproges [Dnepr River Hydroelectric Power Station] water level—amounts to 800 MW. With regard to the amount of time needed and the rates at which it was constructed, the parameters and scope at which the achievements of scientific and technical progress were introduced, there is nothing similar to the Western Siberia-Center gas pipeline system anywhere in the world.

In our country, pipeline transport has become an essential factor in intensifying the national economy. The use of pipelines reduces costs, for example, of delivering oil and petroleum products by R5 billion compared to railroad transport, and saves 25 billion kW/hrs in electric power. Pipeline transport provides enterprises and the population with a dependable supply of oil and gas, and encourages the rational placement of our productive forces as well as inter-district and inter-regional specialization and cooperation in industry. Expansion of the pipeline network has notably reduced the burden on the environment, has improved the caliber of production, and the work of the operational personnel has been organized along the lines of industrial production (by eliminating the travelling associated with the jobs).

The role played by pipeline transport in the country's economy is also growing constantly in connection with the expansion of its field of application. Construction volumes are increasing on pipelines used to deliver water, chemical products, condensate, sulphur, brines, carbonic acid gas, phosphates, raw materials for mineral fertilizers and food industry and agricultural output. The

first pneumatic pipeline systems have been developed, consisting of new types of underground mains used for novel purposes. Coal and ore hydraulic transport systems are being developed.

It is not only pipeline transport's sphere of application which is undergoing expansion, but the geography of pipeline operations as well, since they are being carried out by oil and gas industry project builders. These operations have long since transcended the boundaries of our country. Minneftegazstroy is successfully developing foreign economic ties.

The ministry is carrying out construction work or is rendering technical assistance in 16 countries, including the NRB [People's Republic of Bulgaria], the VNR [Hungarian People's Republic] the CSSR, Afghanistan, Cuba, Algeria, Iraq, Libya, Turkey, Finland et al. True to their internationalist duty, the sector's construction workers have built roughly 50 oil and gas industry projects in these countries, including 8,500 km of pipelines and have constructed two gas and six oil fields.

Domestic pipeline construction has travelled a grand and glorious path during the years of Soviet power. Along with the laying of main pipelines, a vast amount of work constructing oil and gas fields has been completed. A substantial contribution has been made towards setting up and developing the country's major oil and gas producing complexes, primarily in Central Asia and Western Siberia. The sector's workers have also erected new and modern cities and workers' settlements in every oil and gas producing area in the country.

The separating of construction into an independent sector of the oil and gas industry in 1972 helped to further broaden the scope and raise the technical level of main pipeline and field facility construction.

In the 1970's, particularly during the 10th Five-Year Plan period, Minneftegazstroy implemented large-scale construction programs, which objectively arose from the need for pace-setting development of fuel-based power production and the chemical industry as the leading sectors determining the growth rates for physical production and the country's national income. The development of the natural wealth of the Tyumen and Tomsk oblasts became the basis for forming the Western Siberian Territorial Production Complex, whose primary specialization sectors were the oil and gas industry. The construction of a number of fields in Kazakhstan, the Komi ASSR, the Orenburg area, Central Asia and other regions made fresh advances possible for the oil and gas industry.

During the 11th Five-Year Plan period, Minneftegazstroy organizations performed the goal-oriented tasks set forth at the 26th CPSU Congress. They put 62,000 km of main pipelines into operation—12,000 km more than were put into operation during the 10th Five-Year Plan

period. They turned 318 compressor and pumping stations over for operation, as well as gas refineries capable of handling 10.5 billion m³ of gas per year.

In the exceptionally challenging natural and climatic conditions of Western Siberia, invaluable experience in successfully developing oil and gas fields has been gained through the use of radically new technical and technological resolutions, and highly-productive oil- and gas-producing enterprises and pipeline systems have been built within brief periods.

During the 11th Five-Year Plan period, the first stride was made towards setting up the Caspian Oil and Gas Complex. Capacities were established at the Zanzhol Field. A complex of gas-condensate field facilities in Karachaganak were put into operation a year ahead of the scheduled deadline.

Just as happened during the 10th Five-Year Plan period, a great deal of work was done for other sectors of industry. Some 49 plants and works were built for machine-building, chemical, light industry and agro-industrial sectors. The five-year plan for making housing, pre-school institutions, schools, hospitals and polyclinics available was surpassed. A substantial contribution was made toward solving the problem of manufacturing and improving the quality of consumer goods and in implementing the Food Program.

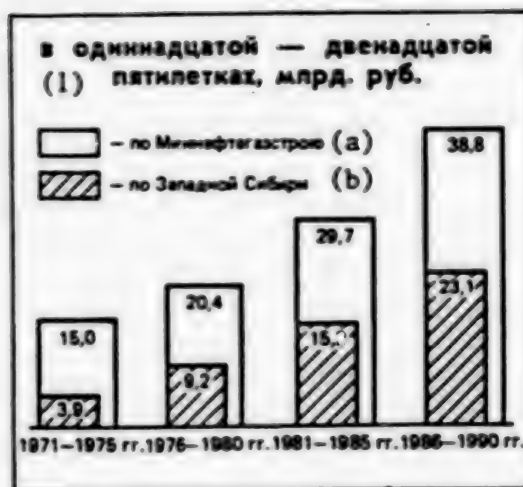
We can say that the sector completed the 11th Five-Year Plan period with technical and economic indicators which confirmed its authority in the capital construction system.

The attainment of the above gains is the result of the technical and organizational policy implemented by the sector.

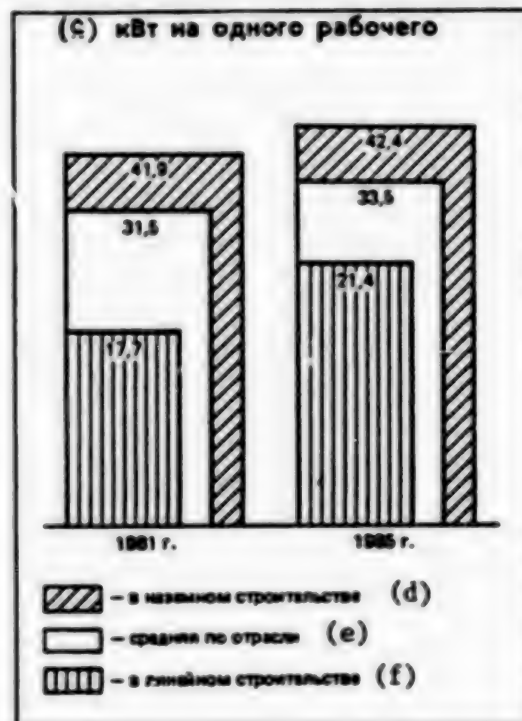
The sector, in developing in accordance with the goal program principle, has assimilated the most advanced domestic and world experience in line and surface construction since it first began its activities, and in many ways has departed from traditional construction resolutions and methods both as regards equipment and production methods as well as in controlling the construction process.

This ministry leads the world in the high-speed construction, particularly in Arctic regions, of long-distance 1,420-mm gas pipelines rated at a pressure of 7.5 MPa, of 1,220-mm diameter oil pipelines, as well as in the construction of superlarge fields on permanently frozen soils.

Powerful pipeline systems are being constructed in our unified industrial corridors, and this produces a considerable economic effect. Thus, the laying of six gas pipelines from Urengoy to the Urals in a single corridor and then in two corridors toward Novopskov and Yelets showed that 25-30 percent less capital outlays will be



Энерговооруженность труда, (2)



Key:

- During the 11th and 12th Five-Year Plans, in billions rubles
 - for Minneftegazstroy
 - for Western Siberia
- Power-Worker Ratio, c. in kW per worker
 - in surface construction
 - sector average
 - in line construction

required for later lines than for the first, and construction and installation work will be reduced by 20 percent. Building compressor stations in a single corridor reduces the time needed to erect them by 5-6 months, with labor inputs reduced by 20-25,000 man-days (per compressor station).

Among the unique resolutions which have ensured high working speeds is the organization of large-scale pipeline construction by spreads concentrating on the final result. The average output of these spreads during the 11th Five-Year Plan period amounted to 12-14 km of finished pipeline per month, which is 2-fold greater than abroad. Labor inputs needed to construct 1 km of 1,420-mm diameter pipelines amount to 1,200-1,500 man-days. During the erection of the Transalaska 1,220-mm diameter oil pipeline abroad, labor inputs amounted to 3,200 man-days per km.

It is commonly known that growth rates on these projects depend largely on their level of mechanization.

The Ministry has set up a subsector for specialized machine-building. Domestic machines have been devised for the complex mechanization of main pipeline construction. Individual machines and mechanisms (wheel excavators, horizontal drilling rigs etc.) are being manufactured which are as good as the best foreign models.

A great deal of emphasis is being placed on raising the technical level of welding operation through the extensive use of automatic welding methods, advanced production methods and improvements in the system for quality control of welded joints. Some 56 percent of pipeline joints are welded automatically with the help of Sever and Styk complexes. The amount of electric resistance welding in field construction has doubled.

Construction of surface structures from complete sets of blocks, which reduces the labor intensiveness of construction and installation work by 40 percent, reduces the unit metal content of these projects by 25-30 percent, and cuts construction time in half, comprises an effective direction of scientific and technical progress. The amount of work done by the complete-block method has increased 1.5-fold over the past 5 years thanks to the use of superblocks weighing over 300 t.

The preparation, transport along pipelines and the immediate burning at power stations of a new type of fuel—a water-coal suspension—is one of the country's priorities and was achieved by this sector. Production methods and equipment are being perfected with the aim in mind of changing over to construction of a new class of pipelines, i.e. those which will work under a pressure of 10 MPa and higher.

It is important that the sector develop an industrial base and introduce progressive production methods into the manufacture of pipeline connections and assemblies and construction industry products.

Technical progress in oil and gas construction comes by fortifying the sector's scientific potential, expanding scientific ties with industry and expanding basic research.

Some 19 academic institutes are participating in work on 40 problems related to production methods, organizing and administering pipeline construction, the reliability and strength of main pipelines, pipeline transport of coal and ore concentrates and new types of transport. Creative ties have been set up with the country's VUZ's. Minnftgazstroy organizations and enterprises are taking part in carrying out the assignments and stages of 30 nationwide, republican and intersectorial scientific and technical programs approved by the GKNT [State Committee on Science and Technology], USSR Gosplan, the USSR Academy of Sciences, USSR Gosstroy [State Committee for Construction Affairs], and are involved in implementing six goal-oriented integrated sectorial programs.

There is an incontestable need for scientific and technical progress within a clear-cut infrastructure. Minnftgazstroy presently has a powerful material base for a socially mobile infrastructure: in recent years, tens of thousands of modern mobile homes and housing complexes, most manufactured using our own resources, have been sent out to pipeline route sites. Over a thousand field towns have been set up, and the living conditions in many of them are excellent. Perceptible advances have been made in the ministry's construction of its own housing. A total area of 3.5 million m² of housing was made available for occupancy during the 11th Five-Year Plan, with available housing in Western Siberia increasing by 2.2 million m². Overall, living conditions in the sector were improved for approximately 70,000 of this sector's families, including 45,000 families in Western Siberia.

Thus, reliable home fronts, vast construction experience in extreme conditions, the existing technical backlog and the powerful scientific and drawing-designing potential have all made it possible for the sector's collectives to approach the solution of the 12th Five-Year Plan's crucial and large-scale problems with confidence.

In order to ensure planned increases in oil and gas recover and transport, we need to implement the largest-scale construction program of all the five-year plans of the sector's existence. This is related to the fact that the basic volumes of work are advancing into the arctic zones of the Tyumen Oblast and the waterless desert regions of the Caspian lowlands and Central Asia. Gas pipelines need to be laid from Yamburg to the country's Center, and 206 new oil fields need to be constructed. Plans call for a total of over 133,000 km of pipeline to be

built, including 58,000 km of main pipeline, with 24,000 km of these consisting of 1,420-mm pipe. The amount of oil-field pipeline construction is being increased 2-fold. This five-year plan's targets are being hampered by changes in the structure of construction and installation work: the full extent of the increase in the amount of these jobs is being used to construct surface facilities. The share of surface construction will increase to 65 percent by the end of 1990, as opposed to 53 percent in 1985. The amount of work being done in the non-productive sphere is sharply increasing. Compared to the 11th Five-Year Plan, we need to construct 1.4-fold more housing, 2.3-fold more preschools, 1.5-fold more schools and 2.2-fold more hospitals. The program for the social development of Minneftegazstroy collectives has been expanded for the 12th Five-Year Plan period. In addition, to the measures for improving working and living conditions and medical and trade services for the sector's workers, improvements in the system for labor organization and incentives and wages should further improve the sector's personnel policy as well as ideological and mass political work. The primary objective of the social program is to provide the oil and gas construction sector with a stable and skilled work force by improving all aspects of its living activity, by meeting the material and spiritual needs of the workers more fully, by activating the human factor and by raising workers' consciousness and through discipline.

Minneftegazstroy collectives have made a good start into the 12th Five-Year Plan period. They put the Yamburg-Yelets-I and the Yamburg-Yelets-II pipelines into operation ahead of schedule. Putting the Yamburg gas condensate field into operation ahead of schedule was a major labor victory. Work on the Progress integrated construction project and other projects is being carried out at a rapid pace. Collectives of the sector's subdivisions have coped well with the assignments of the first year of the five-year plan period and are in good shape to meet this year's targets.

However, the entire large-scale stepped-up program can be implemented and the Yamal Peninsula prepared for development only by taking new approaches to solving these extremely complex problems. Profound changes are needed in oil and gas construction techniques, production methods, organization and economics, as well as in their administration.

The sector is radically reorganizing the system used to control scientific and technical progress. A mechanism has been introduced for initiating the processes for devising and introducing new techniques, which mechanism has directly coordinated the results of innovations with the plan indicators for the economic and social development of enterprises and organizations. All-union and sectorial programs are being implemented which are establishing an excellent basis for profound large-scale scientific and technical transformations in oil and gas

industry construction for the 12th Five-Year Plan period and the future. The administration of the sector's scientific work has also been restructured.

However, not all the sector's arsenal of ways to step up construction have been put into action.

The pace of the restructuring and the qualitative changes in the work of the main administrations, associations, organizations and enterprises, scientific research institutes and design organizations which are related to improving production efficiency, advancing scientific and technical progress, and the widespread introduction of economic management methods, still do not meet the requirements of the complex and large-scale problems associated with expanding this sector.

Thus far, the procedures involved in line facility construction, particularly year-round construction, have not been thoroughly improved. The technical level of surface construction lags in several areas behind not only the world level, but behind the leading domestic level. No satisfactory solutions have been found to such problems as devising new construction materials, increasing capacities and re-equipping our construction-related enterprises. The advances made in complete-unit construction in Western Siberia have not been used to the required degree in other regions of the country or in constructing duty-shift dwellings or social and cultural facilities. Sectorial machine-building is lagging behind demand. The time spent in developing new construction equipment is slow in being reduced, the level of quality of some machines and mechanisms is still low, and too little emphasis is being put on devising and perfecting small-scale mechanization equipment. The amount of work done by hand is being reduced too slowly.

Some of our sector's engineering and technical personnel have yet to come to the full realization that one of the strategic sources which has determined our forward motion and growth for a long time is scientific and technical progress, and consequently, only by speeding this progress up can we achieve a high level of effectiveness in our construction output. What sort of acceleration can we mean, if the part played by engineering and technical services is diminished in a number of the sector's main administrations, if the mass organizational aimed at making national initiative part of technical creativity is not developed or if poor use is made of Orgtekhstroy [State Trust for Industrial Construction] engineering and technical trusts? There are individual main administrations and trusts which are failing to display any independence in solving scientific and technical problems and are not using the rights and economic levers which have been given them.

Nor has the required breakthrough occurred in the sector's scientific work. The sector's institutes have failed to concentrate all their efforts on finding solutions in the key, priority investigations related to scientific and technical progress, on devising radically new future

generations of equipment and production methods, and are placing very little emphasis on theoretical and basic research. Poor use is being made of the potential of the allied sectors and institutes of USSR Gosstroy and the CEMA member-nations. Nor has the requisite integration between science and production ensued.

The above shortcomings can be eliminated by implementing the program of actions which was discussed and adopted at the expanded session of the ministry's governing board. The session was dedicated to accelerating scientific and technical progress in oil and gas construction in the light of the decisions of the June 1987 CPSU Central Committee Plenum.

Right now, the primary task of the sector's enterprises and collectives is to meet the 12th Five-Year Plan period's targets for further increases in the capacities of the country's fuel-energy complex by using intensive management methods and without increasing the number of workers, and reducing it in a number of cases. The scientific level of construction fabrication needs to be drastically raised, labor productivity needs to be increased by at least 25 percent, the material and capital intensiveness of our structures need to be reduced by 20 percent and profits need to be increased 2-fold by bringing the production costs of construction and installation work down to the 1985 level.

The retooling and renovation of construction industry and machine-building enterprises will increase their capacity to manufacture precast reinforced concrete 1.4-fold, KPD [large-panel housing construction] components 1.5-fold, complete unit construction components 2-fold, and machine-building output 2- to 2.5-fold. The progress of construction work on surface facilities will speed up 1.5-fold, and 1.3-fold for line facilities by expanding the construction industry, increasing the use of prefabricated parts and the number of completed units in the projects constructed and by improving equipment and construction rates.

Strict fulfillment of the state and sectorial plans for introducing new techniques and goal-oriented integrated programs for scientific and technical development of oil and gas sector construction are among the top priority and paramount tasks associated with our economic activities.

The governing board has charged the directors of main administrations, trusts and enterprises with taking decisive measures to improve workers' creative activity, to bring in great numbers of workers and engineering and technical personnel to solve problems associated with scientific and technical progress, and to improve work on innovations and inventions. The administrations' engineering services need to be consolidated, staff vacancies in production need to be filled with highly-qualified specialists, Orgtekhshtroy trusts need to play an increasing role and the ties with sectorial institutes and designers' bureaus need to be strengthened.

Directors of institutes and designer bureaus should continue to concentrate the sector's scientific and technical potential in priority directions and on devising radically new techniques and production methods which will sharply increase labor productivity. They need to cut back on the time spent in scientific research and increase the effectiveness of their developments at least 1.4-fold. They need to take measures to intensify the interaction with sectorial, academic and VUZ scientific work, to consolidate the patent subdivisions and change over to the new system of economic operation.

The development of economic and organizational-legal conditions should be activated so that the sector's production can be deeply integrated with the enterprises of fraternal CEMA member-nations, with whom there should be an extensive exchange of scientific and technical information and a practical implementation of programs for setting up joint enterprises.

Revolutionary advances in science and technology can be achieved only when the appropriate organizational, economic and social conditions have been created. These conditions must ensure that the radical administrative reform, the program for which was adopted at the June 1987 CPSU Central Committee Plenum, is implemented. The main objective of the present reform for administering the economy is to set an economic mechanism by which production is fully subordinated to meeting society's needs, the producer does not dictate to the consumer and shortages are eliminated.

A crucial component of the radical reform for administering the economy is the changeover of trusts and enterprises to full cost-accounting. Here, the enterprises use the assets they earn from selling their output to cover not only their production costs but also their capital outlays for expanded reproduction, primarily those related to retooling and renovation. Along with this, the enterprises make payments into the budget for whatever natural resources they use, for productive capital, for capital outlays and for the work-force. On the cost accounting level, this allows enterprises to mate the public interests with those of the enterprise's labor collective.

Under full cost accounting, an enterprise provides financial support for a specific reproductive process by using its own assets, earned through the labor of its collective. This is the essence of self-financing, which is one of the most important elements of self-support.

The sector is taking steps to change 15 main administrations and associations consisting of 100 construction trusts over to full cost-accounting and self-financing beginning in 1988. They will do 74 percent of the ministry's work. And beginning in 1989 the entire sector will be operating under the new system. The sector's scientific work will be put on cost accounting beginning in 1988.

There still remains the task of finishing up the laborious preparatory work, eradicating the formal approach to business and efficiently implementing all measures called for in the special program for changing over to full cost accounting and self-financing.

The changeover of our enterprises to full cost accounting, self-financing and self-support is bringing about a constant increase in the share of non-centralized sources of capital investments. The amounts for financing construction with assets from the production development fund are increasing 2-fold plus (2-fold with assets from the social and cultural measures and residential construction fund). Incidentally, the "residual approach" for allocating capital investments for housing and social and cultural purposes has been done away with. The assets for these purposes are now the first to be allocated.

We also need to hasten the introduction of the collective contract and the transition to the new wage system. The organizations and enterprises themselves must find the assets for changing over to the new wage system. All the more, since a close interrelation has been established between the results of economic activity and workers' wages, and the system of benefits and payments. We should bear in mind that the significance of collective forms of organizing and paying wages is far from being confined to economic effectiveness. The primary workers' collectives are conducting an excellent school of self-administration. The problem consists of joining all the collective forms of labor organization and incentive which transform the economic mechanism from below on contractual principles, with the restructuring of the administrative system now being carried out from above. The radical reform includes bringing a great many workers into the administration, and changing over to self-administration and economic democratization.

The restructuring of the economic mechanism in oil and gas construction and the strengthening of the planning and designing potential are creating the prerequisites for changing the sector over in 1988 to constructing pipelines, housing and social and cultural facilities, as well as the field-to-field pipelines of the Western Siberian oil fields, on a "turn-key" basis.

The systematic improvement of production and economic activities and of the administration of the scientific and technical process, the daily effort to restructure the economic mechanism and the structure and the use in every way possible of the potentialities of the human factor all make it possible for Minneftegazstroy to more fully realize its accrued high potential and to become the sector's real scientific and technical and economic planning headquarters, as called for in the decisions of the June 1987 CPSU Central Committee Plenum.

A new economic mechanism cannot be created by administrative measures. The central emphasis must be on certifying the work-force and constantly raising their

skill-levels, extensively discussing pressing problems, continuous economic training and the main thing—eliminating economic illiteracy on all levels.

During the restructuring, personnel policies need to be actively improved until they are inseparably tied to the key directions in the struggle for social and economic acceleration. The need is not for carefree days, but for a critical analysis of each person's work. Not everyone is up to the requirements of restructuring. No doubt, we need an influx of trained, talented workers, particularly in the main directions in which the sector is advancing.

The new USSR Power Program now being developed, the most important component of which is the further development of the oil and gas industry, calls for increased oil and gas recovery levels in the arctic regions and the desert territories of Kazakhstan during the 13th and later five-year plan periods. This will increase the amount of oil and gas construction.

There can be no doubt that the sector's workers will cope with the new tasks as well. This is guaranteed by the sector's high production and scientific potential, which was built on the foundation of advanced domestic and world experience, and the main thing—its gold fund—is its people. Many workers are examples of creative and highly-productive labor. Over 70 persons have been awarded the honorary title Hero of Socialist Labor, and 14 are holders of the order of Labor Glory third class. Some 54 of the sector's workers are USSR State Prize laureates and six are Lenin Prize laureates. About 200 persons have been awarded the title of RSFSR Honored Builder.

The country anticipates major labor and creative achievements from its oil and gas industry construction workers, for they are on the leading edge of fuel-based power production, and the successful fulfillment of the tasks set by the Party for the large-scale economic and social development of the Soviet government depends to a great degree on them.

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Oil Workers Raise Infrastructure Issue *Baku VYSHKA in Russian 28 Nov 87 p 2*

[Article by A. Mamedov, oil and gas pumper, Shirvan-neft NGDU (Oil and Gas Production Administration, and member of the Ali-Bayramly party gorkom bureau, under the "Restructuring: Letters, Opinions and Thoughts About the Times and About Oneself" rubric: "How Are You Getting On, Oil Worker?"]

[Text] Not long ago an article entitled "When There's Not Enough Concern" was published in Ishyg, our city's newspaper. The article, such as it was, was written very

correctly and self-critically, in the spirit of restructuring. The article's author, Dzhavan Babayev, who is chairman of the Shirvanneft GDU [Oil and Gas Production Administration] trade union group committee, admits that some of the primary reasons for the collective's lag is insufficient concern for the individual, and the poor production and living conditions of Shirvan's oil workers. D. Babayev corroborates his conclusions with concrete examples.

Specifically, he writes that for many years we have been unable to create the necessary conditions in the oil workers' "second home", i.e., the cultural clubs, most of which are in serious need of repairs. Public catering in the workers' canteens is poorly organized. Food is poorly prepared in the Mishovdag area, for example. Oil workers wait during their lunch break for the bread to arrive. Further on, the author describes the wretched condition of the inter-field roads, the poor operating condition of the transport vehicles and how no one has yet been able to set things right in the subsidiary stock-raising farm, where not a single kg of meat or milk has been sold to the workers. Finally, Comrade D. Babayev acknowledges that merely "listing the shortcomings" is not the way out of the situation. The shortcomings are the result, primarily, of our poor organizational work and in certain cases, of our lack of concern. All of this requires that we restructure our operation and raise our level of concern about the foremen who work with "black gold".

I would like to repeat that everything said so far is true. But what and whom are our trade union leader and NGDU management waiting for, and what are they going to do to change from words to specific deeds? In fact, this is not the first time we have discussed this, and not the first year it has been taken up in all the brigade and shop meetings, the party and trade union meetings, the party gorkom plenums and councils of Azneft Association directors. However, the matter still has not moved from a dead stop. Why?

Here's one example. We "repaired" the NGDU administrative building almost every year; however after the very first rains it once again took on its "old" look. But the present city directors only had to say a few impartial words to V. Mamedov, the former NGDU chief, to put on some pressure and suddenly both money and materials were found and after a relatively short time the building was given a major renovation, and the facade faced with tiles. And now it's a pleasant place to go into. Perhaps that sort of pressure is needed to make all the officials who are responsible for solving social problems turn and face the oil field workers who toil day and night outdoors in all kinds of weather and who have the right to better working, living and leisure conditions. In fact, all that remains of the culture clubs is the name, and we frankly don't want to talk about the pumpers' huts.

I believe there is a way out of the situation. Every year, measures are worked up for making current repairs on social and cultural facilities. But the clubs are only given

an acceptably "cosmetic" look. But instead of scattering our forces and assets among numerous facilities, we ought to plan capital repairs for two culture clubs and one workers' canteen every year, and finish what we start. And then do the same amount of renovations the next year. And so on each year. Then the oil workers from the primary and secondary fields wouldn't have to eat lunch in decrepit workers' canteens in unsanitary conditions, or look for a place to rest, and no matter where they are, they could have some hot tea to drink or a place to dry out their clothes.

And as for us workers, we are always ready to help the builders during our time off from work. We already build and repair things for ourselves. All the more, since the Shirvan oil workers have top-quality experience in this field, which has been gained over an entire decade: they were the first in the city to begin helping the builders construct housing.

By the way, oil industry workers suffer from a shortage of housing. Judge for yourself. There are approximately 200 families on the housing registry in the NGDU alone. If we add to this list those people who are on the waiting list from the UBR [Drilling Operations Administration], the rig-erection office, the pipe-and-tool office, SMU-2 [Construction and Installation Administration], the Kura River Geophysical Office and people from other "minor" enterprises, which are nevertheless extremely important to oil recovery, then the number of those in need of quarters swells to 1,000 people. But the Azneft Production Association is planning only one 60-70-room apartment house per year in the city of Ali-Bayramly.

I ask F. Garibov, chief of the Azneftestroy Trust's SMU-2 (who, by the way, is an engineer with a great deal of initiative), if there are really not enough workers to build more apartment houses? He replies that if there were enough building materials, the administration could build 2-3 of these apartment houses every year, if they only planned it that way....

Yes, our leader Dzhavan Babayev is right about the fact that one of the causes for the Shirvan oil workers' lag is the lack of concern about improving their social conditions. I feel that his candid admission of guilt, and his enumeration of the shortcomings is not the way out of the situation. The need is to take action—but in deeds, not in words.

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Urengoy Gas Output Increased

18220030b Moscow IZVESTIYA in Russian 19 Nov 87
p 2

[Article by M. Umanskiy: "A Billion Per Day!"]

[Text] Novy Urengoy—The Urengoygazdobycha Production Association, which takes in two major hydrocarbon fields—the Urengoy Field and the Yamburg Field—has

attained an unprecedented goal: it has begun delivering 1 billion cubic meters of gas through its gas main arteries every day. The Urengoy Field produces the overwhelming majority of the gas.

This much valuable fuel and raw chemical materials can meet the needs of ten cities the size of Moscow every day. But it is not only the giddy figure which is so exciting. Just as impressive are the record times, cut down to the bare bone, needed by the Urengoy gas field workers to supply roughly half of all the gas recovered in our country. Nine and one-half years ago the first complex gas treatment plant in an arctic field began producing output. Now, the planned time periods have been reduced by a factor of 4 in 6 months, and the gas field workers have brought the plant up to its design capacity.

The principle of integrated planning of field facilities and systems was first fully implemented in Urengoy. All the units involved in the technological cycle of recovering, treating and transporting gas, managed to build the roads, power transmission lines and engineering utilities lines, not independently of each other, or separately, but as subsystems of a unified complex. This solution made it possible for them to shorten their lengths by one-third and to greatly reduce the amount of materials used to build the surface structures.

Large-diameter wells were drilled for the first time in both the Urengoy and Medvezhye fields. This allowed the number of wells to be reduced by a factor of 1.5. These wells cost a total of 9 percent more than regular-diameter wells, but they yield 2-fold more.

These headlong growth rates for recovery also stem from the erection of ever newer and newer UKPG [Complex Gas Treatment Plants]. Essentially, these are full-scale plants where raw gas which has been brought up to the surface is transformed into commodity output prior to its long-distance transport to the west. There are presently 19 such plants in the field. But we are not just discussing quantity.

"Each new plant is a substantial step forward," affirms Urengoygazdobycha Production Association General Director R. Suleymanov, who is one of the laureates of the 1987 USSR State Prize, and who has been honored with a high-level award for developing and introducing scientific and technical resolutions which have helped accelerate Urengoy's development.

Working in collaboration with Minkhimmash [Ministry of Chemical and Petroleum Machine Building], field workers tested and introduced a new-generation plant—the "10-Million" Gas Treatment Plant. Having looked in on the two small (I want to call them "rooms") where the high silvery towers have been installed, it is difficult to believe that enough gas flows through them in a day to

meet the needs of a city the size of Moscow. That, however, is the truth. The Urengoy workers are proud of the fact that there are no larger raw gas treatment plants anywhere in the world.

In the Urengoy Field, where new plant capacities are increasing, the plants themselves are being built in more compact dimensions. One of these unprecedented plants, now being developed, is called the Liliputian.

Automation comprised a qualitative step in the development of this field. Indeed, not even the thousand-armed Shiva, sitting at an operator's work-station, could instantly react to all the situations which can arise when controlling this colossal river of gas.

In the control room of one of the newer plants, I am looking over a control panel several times smaller than a normal panel. The control panel has a visual display—the "face" of the controlling computer complex, which uses microprocessor equipment. Working alongside specialists from Minpribor [Ministry of Instrument Making, Automation Equipment and control Systems] and Soyuzgazavtomatika [All-Union Association for Gas Industry Automation], the field workers are taking a crash course in debugging the system for the purpose of enhancing its effect on gas recovery. Where needed, operator-free automated equipment can, for example, shut down any engineering line or even a cluster of wells.

The Urengoy Field of today means not only gas, but another valuable raw material—condensate. A large-scale complex has been erected in the field for treating the gas-condensate mixture taken from the earth. Here in the high silvery gas-treatment apparatuses, tall as a four-story apartment house, gas is separated from liquid. For now, almost all the recovered condensate is sent through the 700-km pipeline which connects Urengoy with Surgut. However, as new capacities are put into operation, an increasing share of this valuable raw material, not only from the Urengoy Field, but from the Yamburg Field as well, will be treated right at the field to produce motor fuels and high-quality propane.

This polar giant should augment our gas supplies by over 600 billion cubic meters during the 12th Five-Year Plan. The field-workers' above-plan figures will also increase. Reaching the record level for daily recovery coincided with the time of another notable event: the Urengoy workers' obligations for this year—to recover 1.5 billion cubic meters of gas above their quota—was already fulfilled by the 70th anniversary of the Great October Revolution.

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Oil Spill Studied by Baku Officials

18220030c Baku VYSHKA in Russian 12 Nov 87 p 2

[Article by F. Khandzhanbekova: "How Did the Accident Happen?—This Question Heard Repeatedly at the Regular Session of the Bakgorsovet Ispolkom."]

[Text] On 8 October there occurred a salvo-like discharge of raw materials and crude oil products into the Caspian Sea. On 9 October the fact of the discharge was reported by Kaspvodonadzor representatives. The Bakgorispolkom and the services responsible for cleaning up oil-spills were notified at that time.

For two days Kaspar [Caspian State Maritime Shipping Company] oil skimmers skimmed oil products from the surface of the sea. The bulk of the oil-water mixture was collected. On 12 October representatives of the Baku Territorial Inspectorate for Environmental Protection and the city procurator's office reported that oil products were still being discharged into the sea and spreading far beyond the floating barriers set out at the site of the accident. Kaspvodonadzor representatives concluded that the spill was caused by a breakdown of the pumping facilities at the NBNZ [Novobakinskiy Oil Refinery imeni Vladimir Ilyich]. As a result, the water could not be pumped into the circulating system after the flotation plant workers had passed. It had to be discharged into the sea. At the time of the accident, only one of four flotation plant operators was working. On 14 October the Caspian was still being contaminated.

The meeting was opened by Bakgorispolkom chairman O. Zeynalov:

"The Bakgorispolkom is getting quite a few letters from the Nizaminskiy Rayon complaining about the NBNZ constantly polluting the air," he said. "We thought it would be a good idea to discuss this problem today with the participation of representatives of the public."

The first to take the floor was A. Orudzhly, head of the recently-formed Environmental Protection Department of the BGI [possibly Baku State Institute]. He discussed in detail the state of the plant's environmental protection activities, the causes of the accident and the measures taken to eliminate it.

Participants of the meeting were shown slides of the accident.

Those addressing the meeting spoke painfully of the harm done to the Caspian. The extent of the catastrophe would have been less had the plant reported the incident promptly, and if the work of the emergency services had been done efficiently and in coordinated fashion.

In his address, Deputy Chairman of the AzSSR State Committee for Environmental Protection G. Kasumbekov, who visited the plant the day of the meeting and spoke with the workers, said that several weeks after the accident, neither the plant collective or management have any sense of guilt or concern about what occurred. Both G. Kasumbekov and City Procurator A. Aliyev named as one of the principal culprits Kaspvodonadzor, whose primary function is to protect and protect the Caspian and to prevent this unique natural basin from being contaminated.

The Ministry of the Petroleum Refining and Petrochemical Industry, in the person of Minister N. Aliyev, who did not attend the meeting to answer to the ispolkom, bears a great deal of the responsibility for what happened. And this is not by accident. It was in fact under his chairmanship that the state commission, whose members included representatives of Azgiproneftekhim, the Nizaminskiy Rayispolkom, Kaspvodonadzor, the Yuzhkaspribvod [Southern Caspian Fish Husbandry] Administration and the AzSSR Goskomgidromet [State Committee for Hydrometeorology and Environmental Control] Inspectorate for Air Conservation, accepted the plant's purification works with an "excellent" rating last year following its prolonged renovation, even though its condition, to put it mildly, was unsatisfactory.

The ministry's position becomes clear if we try to answer the question of whether the accident could have been prevented.

On the day before the ispolkom meeting we visited the Bakinskiy Zonal Environmental Protection Inspectorate, where we were shown a bulky folder with the heading "NBNZ imeni Vladimir Ilyich". It contained all the plant's correspondence with various organizations concerning the extremely poor level of the environmental protection work being done by the enterprises.

There was a copy of the AzSSR State Committee decree "The Practice of Planning and Implementing Nature Conservation Measures at the NBNZ imeni Vladimir Ilyich". Here, we read: "The plant's purification works do an extremely poor job of cleaning the plant's waste water, oil trap sections and oil separators, and the auxiliary sediment ponds were clogged with oil products and silt." There is no end to the shortcomings on this list. But now let us turn to the information concerning the plant's environmental protection work, which was compiled three years later. It again makes it clear that the enterprise is one of the principal polluters of Baku Bay. It is still committing the same shortcomings in its nature conservation work. The plant, as the inspectorate workers noted, is constantly violating "The principles of USSR and union republic water laws", is not acting in compliance with the Azerbaijan SSR CP and the AzSSR Council of Ministers decree "Additional Measures for Protecting the Caspian Sea from Contamination", and Article 54 of the Code on Administrative Legal Violations "Damaging Agricultural and Other Lands, and Contaminating Them With Industrial Wastes".

On more than one occasion the Bakinskiy Zonal Inspectorate had to certify the existence of violations of environmental protection laws by the enterprise. They informed Minneftekhimprom [Ministry of the Petroleum Refining and Petrochemical Industry] and the Nizaminskiy Rayispolkom, but to no avail.

In February of this year co-workers of the inspectorate, now working together with representatives of the city procurator's office, inspected the water conservation

facilities, and brought to light a number of major flaws in the operation of the purification works. It was noted that when the facility was being constructed the planners' activities were not observed during the renovation.

It was suggested that the plan management implement a number of specific measures to stop discharges of waste water into the Caspian Sea. It was then that the inspection data were sent to the city procurator's office.

Six months passed following the inspection. The plant management had plenty of time to eliminate even a few of the flaws. However, this was not done.

It was Nature who paid for the irresponsibility of the State Commission members and the enterprise's management, for the low caliber of production and the poor organization of the maintenance and supervision of the purification works.

Those who addressed the meeting pointed out the need to devise a unified strategy in environmental protection work and to increase the responsibility of various levels of directors for finding prompt solutions to problems related to environmental protection.

Residents of the Nizaminskiy Rayon also had their say at the meeting.

"I am speaking to you today in the name of the residents of the '8th Kilometer'," said VNIIOlefinov [All-Union Scientific-Research Institute for Olefins] associate L. Godik. "We have been breathing polluted air here for several years now. In the summer we can't even open our windows. We have repeatedly appealed to the Minneftekhimprom Department of Environmental Protection, to the District Public Health and Epidemiology Center and to the plant itself to take steps, but nothing has changed. If drastic measures aren't taken, then tomorrow our little village's predicament will be the entire city's predicament."

Resident S. Akopdzhanov spoke about the fact that in the residential area the plants are already dying in the public garden and the park, and the children are suffering from headaches.

Plant Director A. Guseynov and Deputy Chief Engineer for Environmental Protection N. Gadiyev were also given the floor at the meeting, however meeting participants failed to hear any convincing arguments to justify the situation which has come about at the plant. Throughout, it was obvious that they had drawn incorrect conclusions, even after what happened at the plant.

At one point, People's Commissar for Health Care N. Semashko said, "If we don't have a sanitary culture, we won't have any culture at all." These words, which had previously been repeated on a number of occasions, had somewhat fallen from use and had ceased being apprehended by our consciousness. But let us once again

apprehend them, and restore to them their primal clarity. Then we will acutely feel and comprehend that as long as there are enterprises in the republic's capital which systematically poison the atmosphere, as long as we placidly understand that the people of Baku are breathing air saturated with toxic vapors, we won't have to talk about the high level of our culture." This notion passed like a red thread through the speeches of those participating in the meeting.

The executive committee of the Baku City Soviet of Workers' Deputies decided to recommend that the republican Minneftekhimprom take up the question of penalizing NBNZ imeni Vladimir Ilyich Director A. Guseynov and Chief Engineer F. Rustamov for their manifest unscrupulousness and their inadequate level of exactingness concerning their subordinates and concerning questions of environmental protection, and that the question of the advisability of allowing Deputy Chief Engineer for Environmental Protection N. Gadiyev to remain in his position be examined as well.

As we see, the ispolkom maintained that N. Gadiyev bore primary guilt for what occurred. But what about Minneftekhimprom and Kaspobodnadzor? Why, in fact, could not N. Gadiyev ask "Who are the judges? Aren't they guilty as well?"

A few days ago the Azerbaijan CP Central Committee discussed the question of measures aimed at implementing the decree on the country's ecological situation and sanitary condition. The decree states bluntly that it is up to the health-care, environmental protection and supervisory agencies to wage a principled and uncompromising war on environmental pollution, and on irrational uses of nature. It appears that the Bakgorispolkom needs to take a principled stand on these questions as well.

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Overproduction of Gas Criticized

18220029a Moscow PRAVDA in Russian 17 Nov 87 p 2

[Article by Doctor of Economic Sciences I. Tyshlyar and Candidate of Economic Sciences V. Gasparyan, "An Industry on the 'Afterburner': Article's Authors Say Struggle to Recover One Trillion Cubic Meters of Gas Is a Temptation of Extensive Growth"]

[Text] Stavropol—The article "Don't Believe the 'Cheap Gas' Myth" by economists I. Tyshlyar and V. Gasparyan (*Pravda*, 30 September 1987) evoked a great many responses from our readers. The authors, who have penned a number of articles, had asked scientists to give a more detailed justification of their views on how to overcome the widespread tendency now apparent in the gas sector's growth. *Pravda's* Economics Section provided the authors with this forum. The article is published in the form of a discussion.

In 100 years, the economic system of the United States has managed to reach a level at which they recover 700 billion cubic meters of gas per year. The USSR reached this goal three times faster. Having reached their peak, recovery levels in the United States have been falling off for several years now. They have chosen to conserve a part of their nation's gas resources while simultaneously importing it from other countries. Gas recovery continues to grow at a headlong pace in our country. For the time being, the sector has provided us with an extensive raw materials base. Urengoy and Yamburg are the world's largest gas storehouses.

As a result of the impressive increase in the USSR's gas recovery levels, its share of primary energy resources has turned out to be roughly 1.5- to 2-fold greater than in the gas-producing capitalist countries. By 1990 it should reach 38 percent, which is 1.4-fold higher than the United States.

At the same time, gas exploration, recovery and transport costs have increased greatly. The demand for capital investments is growing at a faster rate than recovery rates for this valuable resource. Increases in wholesale gas prices are keeping up with these costs. That these prices are substantially lower than world market prices does not matter.

During the time when the Soviet economy was being established, low domestic gas prices were justified by our concern for accelerating the industry's growth. However, one cannot "swim" forever in cheap resources, as this leads to a practice of economic management which is aimed at constantly bringing in new resources, as opposed to conserving them. The reduction of the national income's specific power consumption was not an imperative of our economic operation. During the last five-year plan period, power consumption rates for our country's national income were reduced only modestly. This indicator is slated to be raised during the 12th Five-Year Plan by 7-9 percent. This will save 200-230 million t of standard fuel. By the year 2000 it is assumed that the national income's power consumption will be reduced at least 1.4-fold.

Is this a pressing problem? Yes, but we feel that it ought to be subordinated to revising the strategy for using our power-carriers, primarily natural gas. Unfortunately, the country presently has no unified technical policy for rational gas use. This sector is practically ownerless. Its administration is scattered among a great many departments, enterprises and organizations. This is why so little use has been made of advances related to scientific and technical progress in energy conservation. Quotas for reducing gas consumption levels are not being met. Mingazprom's [Ministry of the Gas Industry] scientific subdivisions communicate poorly with gas consumers.

The fact is, a great deal could be achieved in the area of energy conservation by replacing obsolete gas-burning equipment, by making more extensive use of the heat

from gas combustion products and by improving the efficiency of thermal generating sets. Methods for doing just this have been developed by the Soyuzpromgaz Scientific Production Association, but they are not being widely used. This is no simple task. A forced increase in the country's gas recovery levels has been thrust into the shadows of the concern for its being used more rationally. Unfortunately, we are not keeping pace with the world economy in this matter. The world level of consumption of all power-carriers per unit of output has been reduced by one-quarter compared to 1970. The upsurge of prices some time ago for raw hydrocarbon materials instigated a stormy expansion of energy-conserving production procedures. It costs a factor of 3-4 less to introduce them with the same effect than drilling all new oil and gas wells. In short, the entire industrial world is unbendingly oriented to using raw hydrocarbon materials more intensely. We have also adopted important state resolutions in this regard. However, if one faces the truth, our gas industry is on a sweeping course of expansion. The unanticipated increases in gas recovery levels in Western Siberia are provoking a certain giddiness. And many of the sector's experts, looking optimistically ahead, are saying we ought to be able to recover over a trillion cubic meters per year in the near future.

However, won't this "precocious" trillion cubic meters become an disturbing economic symptom? We need to come to a sober understanding of what we are involved in here. Neither an absence of glasnost in preparing our targets for further gas industry growth or unwarranted screening for publication of a number of facts are of any benefit here. But on the other hand, individual specialists are being allowed to plan a "bold" surpassing of the trillion mark in gas recovery. Doing this gives us the idea that our gas resources are inexhaustible and that the gas we annually take from the fields is only a function of our capital investments and the potentialities of our drilling and construction organizations.

This method of justifying our control figures for gas recovery has already led to the impulsive forced development of many fields. The rapid depletion of the Northern Caucasus gas fields serves as a cautionary example from the past. This region has turned from a gas supplier to a customer.

It is extremely rare that one finds a concentration of gas reserves like the unique Medvezhye, Urengoy and Yamburg fields. As the fields are developed to the degree that their reserves are worked, the mining and geological conditions worsen. This unavoidably leads to rapidly increased production costs. Do we have the right to shut our eyes to this? Further, then. Let us imagine, for the sake of simplicity, a growth curve for the domestic gas industry. We can clearly isolate three stages: increasing recovery, stable recovery and declining recovery levels. There is reason to believe that we are now approaching the end of the first stage. This is why, if we turn sharply in the direction of using our resources more frugally and

intensively and more persistently cut back our losses, both when developing the fields as well as when using the gas, then along with the second stage, the first stage will last longer, and the demand for capital outlays will decline.

Alas, the sector doesn't think much of intensive growth methods. This stems from sluggish thinking and the faltering, mechanical use of models for calculating the time factor, which are suitable only for the industry's refining sectors. In fact, if an increase in the capital-labor ratio in the refining sectors entails saving working time and reducing the cost of units of output, then it will have the opposite effect in the long-term plan for the gas industry. Here, the capital-labor ratio is defined by increased expenditures.

Science has proven that gas extraction operations cannot be planned in isolation from the individual information concerning the gas deposits. There are concrete economic and ecological limitations on speeding up the rates at which gas fields are worked. If these limitations are ignored and guidance is taken from administrative directives, then miscalculations in long-term planning are unavoidable. And this leads to noticeable losses of raw materials and financial resources. The nuance lies in the fact that these losses, up to a certain point, were hidden, and both make themselves felt and show up after 5-10 years following initiation of the field's development.

With the present forced working of the fields, the time periods for stable recovery levels are being unavoidably curtailed. The intermediate economic indices will improve, but we should not let ourselves be led astray by this. After having reached the peak load by drilling an excessive number of wells, and after the "triumphant" reports, the piper ineluctably waits to be paid.

What are we to conclude from this? The forced, so-called peak working off of the fields is one of the most extensive methods. It is absolutely unsuitable to place an equality sign between the accelerated development of the gas industry and the frenetic working of its fields. The negative results of forced recovery are similar to a landslide. The best of the developed fields undergo an accelerated aging. It is precisely because of this practice that approximately 60 percent of the industry's capital outlays are presently being used to compensate for declining gas recovery levels in certain areas.

This is not to say that everyone in Mingazprom has closed their eyes to the effect of these hidden negative factors. We have developed large-scale programs for in-depth qualitative reforms connected with introducing new technology and with primarily developing the country's largest fields. There is no doubt that implementation of these programs will improve the sector's economic indicators. But this does not rule out the very real need for a sharp turnaround towards resource conservation.

Optimization of gas use in this country is closely tied to solving the acute problem of reliably controlling the seasonal irregularity associated with the demand for this resource. World quotas for holding gas in reserve have been established at 10-12 percent of the annual demand. To adapt ourselves to them, we should double our present quotas. This would eliminate the yearly winter-time disruptions in supplies to our consumers.

However, other experts believe it is more appropriate to put strict limitations on gas consumption during the winter months. In actual fact, the practice of using limits hinders the intensification of industrial production.

Balanced development of an underground gas storage system naturally requires considerable capital outlays. Foreign countries handle their construction by introducing seasonal markups to gas prices. Our calculations have shown that if the price for gas sold to industrial enterprises and power stations is raised by R1.6 per thousand m³ during autumn and winter, then this will permit sufficient financing to develop a storage system and to change it over to full cost-accounting.

Thus, in order to reorient the gas industry's economic system to increasing its final production results, we feel that the first order of business is to exclude forced working of the fields from the sector's arsenal. Second, we should increase the responsibility of the sector and the consumers for improving the efficiency of gas use pursuant to the state interests, i.e., reducing the national income's specific energy consumption.

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Oil Industry Prepares for New Financial System *18220029b Baku VYSHKA in Russian 29 Nov 87 pp 1-2*

[Article by R. Kender, under the "Restructuring: Preparing Collectives for Cost Accounting" rubric: "On the Threshold of Self-Financing"]

[Text] As of 1 January 1988, enterprises of the oil- and gas-producing sector will be working under a system of self-support and self-financing. Are the collectives ready to begin a new life according to the way their directors and chief specialists are depicting their financial future? All this was the subject of a discussion at the All-Union Seminar and Conference, held recently in Baku by USSR Mingazprom [Ministry of the Gas Industry] with directors of associations, enterprises and organizations, their deputies for economic problems and economic services directors.

Why Baku? Because at present, the Caspian is our country's only commercial offshore oil recovery area. Azerbaijan's experience will be taken to the Arctic, to the Sakhalin Peninsula and to the Baltic, as will its equipment, production methods, infrastructure and administrative methods.

The conference revealed many of the directors' extremely poor preparedness—primarily on the economic plane—for restructuring. Some of them, even here at the conference, looked too dutiful: not like courageous creators of new methods of economic operation.

A. Mamedov, chief of the Production Association imeni 22nd CPSU Congress Planning Department, touched, it would seem, the sorest topic:

"We have paid," he said, "ten million rubles for polluting the sea. He then added, "They know about this in the upper levels...."

...But Comrade Mamedov, if we might be so bold, are there "upper levels" here? It was money, was it not, which passed from the pockets of the workers at Neft-yanye Kamni. How much housing and how many kindergartens could have been built with it? How wonderful it would have been to equip polyclinics with this money. How long before the planners and economists stop fighting for every ruble the collective earns, when in fact the collective is anything but indifferent about where the money went? Why have people received no bonuses for almost an entire year? Literally all the Caspian enterprises are interested in the financial well-being of the imeni 22nd Congress Production Association, as it produces the greatest profits, maintains unprofitable collectives and has an administrative apparatus. Under self-financing, it has to stand firmly on its own two feet and must operate stably day after day, hour after hour. And at the imeni 28 April Field the field surface facilities, particularly the pipelines, have been made into a living line, supported by the honest word of those who built it. How can we talk here about confidence in tomorrow?

Complete confidence in the fact that things are going to go along as they always have and that restructuring will not touch the Chelekenmorneftegazprom PO [Cheleken Offshore Oil and Gas Industry Production Association] is obvious in the position of its chief Ya. Bayramov. The Cheleken PO is based on the eastern shore of the Caspian Sea in Turkmenia, and lives on profits earned by others.

The Cheleken PO employs 2,500 people, and to provide for them while recovering only 477,000 t of oil, as presently called for by the plan, is impossible. To provide for itself it needs to recover 750,000 t of oil, and this is only the 1989 plan level. And it would have to double its recovery levels—i.e. extract 1 million t of oil—in order to have money to construct housing, rest resorts and Pioneer camps. And that is the plan figure for 1990.

"We don't have this much oil, and won't have it by the end of the five-year plan period," announced Ya. Bayramov. "This figure was written on the basis of an initiative from the TuSSR Sovmin [Council of Ministers], but the opening up of new fields has not been confirmed by geological calculations."

However, the economic laws will be inexorably and rigidly in force after the first of the year, and the republic's council of ministers is no longer ensuring a happy existence for the unprofitable enterprise. Only the final result and a substantial contribution to the country's economy can justify its existence.

Artemneftegaz, the oldest NGDU [Oil and Gas Production Administration] on the Caspian also awaits precisely the same dismal fate. It operates at a loss of R9 million per year. Its recovery levels are declining due to the fact that its water-development works have come to the end of their service life. One after another, wells on damaged foundations are being shut down. It is unprofitable to rebuild them, so there is no drilling in progress.

"We will not be able to eliminate unprofitable operation before the year 2000," said NGDU Chief B. Khalilov. "But we believe there are still at least 5 million t of oil reserves in our NGDU's fields. All we have to do is drill new wells."

G. Londarenko, chief of the Deep-Water Offshore Drilling Platforms Planning Department is on the dais. He has reported that the plant is ready for self-financing and has reached its design capacity—its shops have already assembled 5,000 t of metal work in a month.

...Undoubtedly, some time ago they would have been beating the drums about this, but today this event is being evaluated from the perspective of common-sense. The plant, which cost over R250 million in national funds to construct, has yet to produce, on its own, a single finished drilling platform—the wheels are turning, and individual assemblies and odd metal structures are being put together. We now have four deep-water drilling platforms up on the plant's stocks. We will be finished building them by the end of the five-year plan period at best. And this is in the same amount of time that the VPO [All-Union Production Association] used its own workers to assemble, tow out to sea and set up five deep water drilling platforms. It was stated frankly at the conference that the BZGO [possibly Baku Deep-Water Drilling Equipment-Building Plant] has so far represented itself as a plant which manufactures assemblies, and then has the task of assembling two drilling platforms per year, towing them out to sea and then turning them over on a "turn-key" basis.

VPO Chief K. Abasov: "Under self-financing, modules will not be paid for as if they were finished products. There will be a single system: you turn a platform over on a "turn-key" basis, and you get your money."

How can one report complete readiness to change over to self-financing when the client thinks the plant's product is unfinished and unsuitable for purchase? This is where we need to break with outmoded thinking stereotypes. During the 13th and 14th five-year plan periods, the amount of offshore oil and gas recovered in Azerbaijan and other shelf areas will depend on how well the BZGO

begins delivering the platforms needed to develop deep-water areas, and turning them over on a "turn-key" basis. This is what the customer expects.

The Oil and Gas Production Administration imeni Serebrovskiy is the VPO's base enterprise for introducing in-house cost accounting. Here, all the shops and 27 brigades have been changed over to full cost-accounting, and are working with fewer personnel. As a result, labor productivity has risen, all the plan indicators are being met and the collective has brought in roughly R3 million in above-plan profits.

"We have been ready to change over to the new wage rate since the beginning of the year," said NGDU Chief R. Kurbanov. "Where do we get the money? We're considering cutting back by 210 workers and 45 engineering and technical personnel."

"You want to cut back your number of workers?" interrupted First Deputy Minister of the USSR Gas Industry L. Filimonov. "But have you thought about the future? Where are you going to get specialists if you need them tomorrow? Azerbaijani oil workers have shown up on duty-shift brigades in Krasnodar and they fly to Urengoy. Keep your workers for yourself and cross-train them in associated skills. Sixty percent of your outlays are for depreciation. You need to set your capital in order, provide paid services to the population and set up cooperatives—that's where you'll find an unbroken stream of monetary resources. You only have to organize your affairs properly."

Representatives of the Bulla-More imeni 50-letiya USSR NGDU were in the conference lobbies, saying that they intended to write a complaint to Moscow protesting their merger with the NGDU imeni N. Narimanov. They stated their arguments: the monthly plans for oil and condensate recovery had been overfulfilled by almost a factor of 2 at the Bulla-More NGDU, they had made R14 million in profits and now all this had to be used to cover the losses incurred by the Narimanov NGDU workers. It would of course be remarkable if profits were flowing from two channels, but this is not the case. And this example graphically corroborates the fact that people in these parts still do not understand that small enterprises employing 500 or few persons are not suited to working under the new system. On their own, they are incapable of concluding contracts with clients, of solving potential problems, of purchasing equipment of superior quality, of using their assets cooperatively to construct large-scale social facilities etc.

These functions are also outside the capabilities of such enterprises as the NGDU imeni N. Narimanov, even after merging with the Bulla-More NGDU. New types of large-scale structural formations are needed these days to strengthen the country's economy: GPO's [state production associations], such as the Kaspomorneftegazprom VPO [All-Union Caspian Offshore Oil and Gas Production Association] will become, after the beginning of the

new year. The majority of its subdivisions will serve as structural units, which will operate on a cost-accounting basis and their material incentive funds cannot be withdrawn without the agreement of the collectives. The new system of economic operation does eliminate essential enterprises which operate at low profits or those operating at a loss. Some of them cannot be shut down, as they are involved in solving sectorial and intersectorial problems.

Restructuring is under way as well in the economy's upper administrative echelons as well. The administrative staff has been cut back by one-half, and main administrations and all-union associations have been eliminated. Henceforth, the ministry will solve the exclusively strategic problems associated with expanding the sector, and will not interfere in the enterprises' current economic activities. Some of the accumulated profits of such highly-profitable enterprises as the PO imeni 22nd CPSU Congress will be put into a centralized fund, to be used for such purposes as paying ministerial workers' wages, and this is why oil production workers will have the right to demand that these workers bear economic liability for the quality of issued directives.

Since the beginning of the year all NII's [scientific research institutes] have been changed over to cost-accounting. The novelty here is that it will make scientific and technical developments, plans and drawings into commodities of a sort. Scientists will be made directly dependent on production. Financing for scientific research will be specific and goal-oriented. The client has acquired major rights. If no contract is concluded, the institute returns the money; if the contract price is exceeded, the customer does not pay for cost overruns. The industry will not maintain science, but will try to see that it organizes its own portfolio of orders and has its own profits.

In 1988, a new plan section—the state order—will make its first appearance. For the fuel-based sectors, these orders will concern oil, gas and condensate in tons and cubic meters. It is being approved by the USSR Council of Ministers.

One of the plan's main sections concerns norms. They have been differentiated and stabilized for the entire five-year plan period. The wage norm has been set per 1,000 cubic meters of gas and tons of oil recovered. Everything recovered over and above the state order is paid for at a rate of 1.5 of the norm. This is an extremely tempting incentive.

How is every earned ruble of profits to be distributed? This question has evoked the most acute interest. At this point, leading USSR Mingazprom specialists took the floor. They broke every kopeck down among the various expenditures, and presented the affair in a very graphic manner, thus showing how the ruble of profit is spent: 71.9 kopecks is deducted for the state budget, with the remainder distributed into three funds—16.8 kopecks

for the production development fund, 2.6 kopecks for the material incentive fund and 7.4 kopecks for the social development fund. All the norms—except for the deductions into the state budget—can be amended on a yearly basis. If the plan for profit accumulations is not fulfilled, the material incentive fund diminishes. Out of every ruble of above-plan profits, 58 kopecks are left over for the enterprise. This is to the collective's advantage.

How can we increase our profits? First of all by decreasing depreciation outlays, which comprise the lion's share of expenditures, and by using inexpensive services. Several economists have already pondered over this problem. A. Gadzhiyev, head of Kaspimorburstroy [Caspian Offshore Drilling Equipment Trust] shared his concerns with us:

"The trust has R7 million in imported equipment which is not being used, but for which we pay 45-50,000 rubles per month. We want to sell it, at least the expensive pile-drivers. We are trying to find a purchaser."

Yes, no little amount of bungling was tolerated at the time the VPO purchased its imported equipment. This affair was handled by incompetent people, and the upshot is that three pile-driving hammer rigs are lying about unneeded and ownerless, and we have a great many expensive floating rigs whose services are not needed. So in fact, this is a place where one can buy and then discard the sort of machine which can financially ruin an entire collective. This is where there is not enough common sense and no cost-accounting.

And how is construction planned? From time immemorial, our nation has known that if the master has decided to build himself a house, the family has to labor vainly to tighten its belt and to deny itself a great deal for over a year. But our enterprises have become accustomed to building without thinking about it. With all their might they construct wells where reserves are becoming depleted, where it would be more reasonable to make do with a workover. Under self-financing, the need for new construction will have to be presented not within Mingazprom, but first of all in one's own collective.

As of the beginning of the new year fines will be levied for uninstalled equipment, amounting to 13 percent of its value. Before buying anything, one will have to think about when would be the best time to do so, in order to keep from incurring losses. An increase in the capital-labor ratio equals an increase in outlays. We need to approach the use of services in a new way and get away from expensive vessels and mechanization equipment. Why order a huge floating crane costing R900 per vessel-hour, if you can get by with a small one which is cheaper by a factor of 5? The more you pay for a service, the less money you have left for yourself.

The role of the director is complicated many times over under self-financing. If prior to now he was aware only of his responsibility for the plan to his superior authorities, now he answers first of all to the consumers of his output for delivering his entire products array on time. He is obliged to make sufficient profits, to keep from hounding the ministry for funds, and to do an increasingly better job of finding and purchasing the things he needs. He must not go to the bank and demand non-returnable loans for capital investments, but must earn them in his collective. He must not hide from scientific and technical progress, but keep abreast of it.

USSR Mingazprom's present economic situation does not particularly evoke optimism. The sector is showing profits of roughly R6.4 billion, however low oil and gas prices are not providing any accumulation of in-house assets for construction of new projects. There is a shortage of R4.5 billion for full cost accounting, and for now this sum will be covered by state capital investments. Thus, the sector is extremely hard up for assets, and it does no good to count on subsidies from above. No matter who goes to the ministry with hat in hand, they'll receive nothing after the first of the year. We should rely on our own labor to earn the necessary resources to live, to expand production and, of particular importance, to solve widespread social programs—to improve medical services, to build more housing, sanatoria, rest resorts and Pioneer camps, to reduce the cost of public catering in the oil and gas fields.

We should not allow a situation to come about, such as occurred in the Kaspneftegazflot Production Association, where 7,000 persons work in difficult stormy sea conditions, but where the enterprise has not a single kindergarten, preventive clinic or Pioneer lager.

Caspian Sea oil workers have accomplished a great deal, but it has cost the sector and the country a great deal. Offshore oil and gas recovery levels need to be increased, with primary importance assigned to the economy. We need to prepare our labor collectives for self-financing and cost accounting. We must teach them new ways of thinking. We need to accelerate the transition to the new system of managing the economy, for there will be no retreat from the deadline—1 January 1988.

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Azneft Reports Production Figures

18220029c Baku VYSHKA in Russian 12 Nov 87 p 1

[Unattributed article: "Land Drillers in the Breach"]

[Text] On 5 November, the Bukhta Ilyicha MURB [Offshore Exploratory Drilling Administration] collective fulfilled its year's footage plan by drilling 57,250 m. The collective has accumulated over R2 million in profits, and brought in 18 high-yield wells in 10 months. Its per-rig sinking rate was in excess of 600 m per month.

The brigades led by G. Nazarov, S. Imanov and D. Babayev, S. Akopyan and N. Dzhaferov and Kh. Kuliyeu hold the sinking record of over 1,000 m in a month.

On the eve of the celebration of the 70th Anniversary of the October Revolution, two more wells in the imeni 28 April Field were put on line ahead of schedule. Each is yielding up to 300 t of oil per day.

Concerning the plans for 1988, the leading collective was asked to increase its sinking plan and raise it to 65,000 m for its 10 currently available rigs. What brought on this initiative? The drillers figured that this would considerably raise their profitability level.

The crew of the Shelf-2 floating drilling rig also presented a fine gift to the 70th Anniversary of the October Revolution. The crew discovered a gas condensate pool in the imeni Kfaverochkin Field by drilling a well to a record offshore depth of 180 m.

The Bulla MURB fulfilled its annual plan ahead of schedule. Since the beginning of the year, it has turned over seven deep and superdeep wells to the field men, instead of only four. In fact this year is confirming the leading positions of the Sangachal MURB, which has turned over 13 wells—1 above the plan—to field personnel, as well as the Peschanin MURB, which has turned over 6 completed wells, as opposed to the planned 4. Both of these enterprises were awarded Jubilee Honorary CPSU Testimonials from the CPSU Central Committee, the USSR Council of Ministers, the AUCCTU and the Komsomol on the eve of the celebration of the 70th Anniversary of the October Revolution.

The Neftyanaye Kamni MURB made a breakthrough by overfulfilling its target for October by 33.6 percent. All of its rigs operated with no accidents or complications. However it is still 1,357 m behind. It needs to eliminate this lag and turn over the planned well clusters prior to the end of the year.

Kaspmorneftegazprom VPO drillers are fulfilling their plans for the most part. For the first time, they have eliminated their exploratory drilling lag by drilling 301 m per month at a plan level of 286 m. Reserves are growing apace. Only the multi-million ruble losses of the MURB equipped with STS's [possibly sanitation and transport vessels] have darkened the mood of the leading collectives. People expect, and not without justification, the management of the VPO and USSR Mingazprom [Ministry of the Gas Industry] to take constructive measures to eliminate the lag of the MURB with the STS's.

Onshore drillers worked extremely unsatisfactorily in October. The exploratory drilling target was fulfilled only by one-half, and the development well target by only 85 percent. Of four administrations, not one fulfilled the plan for both targets. Even the Ali-Bayramly UBR [Drilling Operations Administration] failed to

meet the target for all sections. And this is the collective which used to be first among the leaders, and which took upon itself increased obligations in honor of the anniversary of the October Revolution. But it failed to keep its word, did poor work in exploratory areas and failed to put the planned number of wells into operation.

The Siazan UBR is only fulfilling its plan for the second contract month by one-third. Azneft [Azerbaijan Petroleum Industry State Association] is inclined to justify this intolerable lag as being caused by the difficult mountainous conditions of the Zagly-Zeyve Field, where there are no reliable roads, and where material and technical support for the drillers is extremely difficult. However, winter has not yet arrived. What's going to happen when the mountain roads are choked with snow? The truth is, the enterprise will lose all its previously-accumulated profits.

The Prikurinskoye URB's lag has become extremely intolerable. Here, the plan is "coming apart at the seams". Losses are approaching R6 million. Only 6 of 12 rigs are working. The rest are shut down because of an absence of drillers. How long is the Azneft management going to keep up large-scale drilling operations where there is no one to maintain them? Where is their common sense?

Azneft drilling enterprises will receive independent status as of 1 January 1988. This means that each of them will earn wages, will form material incentive and social development funds, will put deductions into the state budget. The Prikurinskoye URB will not be viable under self-financing. The Azneft management ought to come to a decision concerning this enterprise and change its structure and tasks in order to create conditions conducive to profitable operation.

A month and a half remain before the end of the year, before the turnaround stage in the life of our oil workers. Everything possible needs to be done to secure financial independence for every enterprise.

12659

ELECTRIC POWER GENERATION

Construction Problems at Kurskaya AES Noted
18220026a Moscow KOMSOMOLSKAYA PRAVDA in
Russian 17 Nov 87 p 1

[Article by T. Belaya (Kurchatov): "Ministry Supervisors Start Games by Correspondence with Builders of the Kursk AES"]

[Text] Nikolay Belobrov folded the written list four times and put it in an envelope bought the day before for six kopecks.... After a bit of thought he wrote down the address: "Moscow, USSR Ministry of Power and Electrification...."

The communicators assert that the epistolary genre is not in vogue nowadays. Modernists, they say, prefer the telephone. And indeed, one simply does not find a half hour for dashing off a couple of lines to one's parents, it is easier to lift the telephone receiver: "Well, how are you, and how is your health?" And so it is that in regard to the means of contacts with people that are close, the communicators perhaps are right. But to "shut off" the fashion for letters entirely clearly is rushing things. Thus Nikolay Belobrov, for example, had not become acquainted with Stanislav Ivanovich Sadovskiy, but was in correspondence with him.

What else is there for him to do? Can you imagine a leader of a construction brigade informally dialing the first deputy minister, which is Sadovskiy's work, and telling him: "We need help, brother. We are tied up without crushed rock and reinforced-concrete structure, the plan is not being met, the work rhythm is being thrown off. For we are erecting not a stove but a nuclear power unit"? And the chief of such high rank just as simply promising to help? And, moreover, as a result of a single telephone talk, the planned (we do not need any excess!) units of materials and equipment supply start to arrive at the construction project in a continuous stream? An improbable situation? You bet it is. It is not advisable to resolve problems of the greatest importance by telephone. It simply cannot be done without a letter.

The builders of the third line of the Kursk AES write them in large numbers. To party and soviet organs, to their superior organ Soyuzatomeenergostroy [All-Union Trust for the Construction of Nuclear Power Facilities], the suppliers and the chairman of the coordinating council on development among laboring collectives, which participate in the erection of nuclear power-engineering facilities and socialist competition under the Workers' Relay principle, and to people's control. When they went to see painter Natasha Sidorenko off to the 20th Komsomol Congress, they also, just in case, put a letter in her pocket. Addressed to the Komsomol Central Committee. Suddenly they were helped to get a few tons of crushed rock. In a fit of anger at lagging behind the concretelayer (it does not matter, it is idle now and then), Nikolay Belobrov picked up his ball-point pen. Together with other leading brigade leaders, he sent a letter to his own minister.

The construction party committee correctly considered that the people no longer pay attention to words. And actually, a reply soon came with the signature of First Deputy Minister S. I. Sadovskiy. In the first paragraph he told the brigade leaders why supply of the construction project with materials and constructional structure had been disrupted. In the second he gave assurances that steps were being taken to eliminate the lag in deliveries, as a result of which all the unconscientious supporting workers had turned over a new leaf. In the next he reported that the problems that were slowing construction and required solution by the client had been reviewed at a joint conference of the two ministries.

Then he chided the builders for their own undone work. And in conclusion he expressed confidence that the "experienced collective of builders of the Kurskaya AES will provide the necessary reserve of accomplished work for the timely startup of power unit No 5."

Belobrov and his comrades received the letter from Moscow in June. We met the other day.

"Changes have occurred, but... for the worse," said Nikolay, in a snapping manner. "I won't ever waste any more paper. That's just an amusement for simpletons."

The "necessary reserve of accomplished work" turned into an increase in the lag in assimilating funds for the power unit by another several million rubles. The construction schedule crumbled. The flow of supplies was reminiscent more of a stream with a parched streambed. The Krasnodarsk Reinforced-Concrete Structure Plant, the Volga Steel Constructional-Structure Plant, and the production association Dneproenergoostroyprom—not all those in arrears have been named.

Belobrov's brigade, given normal support, assimilates 100,000 rubles' worth of construction and installing work each month. Last month it struggled to do barely 39,000 rubles' worth. Not having the opportunity to "subsist" at the power unit, it caught up on various other facilities. I tried to talk about commitments, the brigade contract. N. Belobrov just winced irritably:

"There is no need to kid each other," he said, waving his hand. "There are no resources—the construction project should not start anything. Is it really businesslike that a high-powered collective and an enormous amount of machinery works at half strength? It means not millions, but billions of losses here. It would be better to send us to nearby kolkhozes, we would dress them during this time in asphalt. But here, pardon me, we are urging nonsense."

The frame of mind of the leader of the Komsomol Youth brigade, Andrey Tkachev, is no better. The lads resolved to carry out the two-year plan by the 70th anniversary of Great October. They sat down and they estimated at the start of the year that it could be done with a reserve. But now, for example, there is weeping. For a few months the plan went swimmingly. The anniversary commitments have been disrupted, and the goal for the year is threatened.

"A strange puppet show is going on," says Andrey. "Now the ministry has answered that they are trying to do everything to support the construction project. It says that if there is not enough of something, then it is a tiny bit. Our authorities, for their part, likewise fall short in their work only a tiny bit. The supplying plants slip a tiny bit. But I arrive at my workplace and throw up my hands—there is nothing. Now they say: restructuring must begin with oneself. We are trying—quality, for example, has become incomparably higher, and the

people simply strain at their work. But... they are not being supported. It is interesting, but how are the 'upper echelons' doing with restructuring?"

Soon after this meeting the construction administration acquainted me with the report of a conference dedicated to progress in erecting the third line of the Kurskaya AES. The same thing that was mentioned in S. I. Sadovskiy's letter. Deputy USSR Ministers of Power and Electrification and of Nuclear-Power Engineering A. N. Semenov and P. P. Drach held the conference on 10 June 1987. The invited comrades from high posts were dazzled. The resolving part looked impressive...the responsible persons, specific early deadlines for delivery, the issuance of design papers, and so on were determined. The paper provoked respect. Then I read the information about fulfillment of these measures. Out of more than 20 items, only once was the word "fulfilled" encountered. The question: "And what about this year out of doors?" suggests itself involuntarily. I did not go again to Andrey Tkachev, I did not start to tell about the obvious. Much as I would like, I would not be able to explain to him why such busy people, who are clothed with authority, spend their time in vain.

Everyone admits a kinship to the game, "Do you believe—do you not believe?". Nevertheless, each year, unwritten rules are observed by everyone but the rules are known by each participant. They send letters impressively, they answer them impressively, they meet impressively and they impressively make promises to each other. Understanding beforehand that they are cunning, that their promises are not kept, for they are not reinforced by any kind of economic calculation, but are made only in order to divert from themselves, even temporarily, the authorities' anger. The rules are not being violated and the matter does not advance a step farther.

All these games—are they not drawn out too much? Perhaps the advice of brigade leader Belobrov should be followed, and planned lying should be stopped? Honestly estimate all the existing funds, supply, equipment and human resources and the potential of the designers and of transport, and make up a construction program (for all jobs, without exception), which would be provided completely with all that is needed. And then, all of a sudden, in order to solve any question, picking up the telephone receiver suffices?

"We would wind this power unit up not in five years but we would do it in two," says Belobrov. "And with such quality that no damage would ever occur that our descendants would not be ashamed of it. But now...what is the sense in our present-day muddle? Who needs it?"

Progress Report on Rogunskaya GES

182200266 Moscow SELSKAYA ZHIZN in Russian
26 Sep 87 p 4

[Article by N. Ruzanov (Tadjik SSR): "Taller Than the Eiffel Tower"]

[Text] And here we turn at Obigarm village onto a new highway. After passing a column of trailer-trucks with excavators, bulldozers and other equipment on trailers, we rush along in our speedy UAZ to the upper reaches of the Vashkh River. Here at the Maydon rocks, Tajikistan's largest GES—the Rogun—is being erected. In capacity it will equal the leading dam—the Nurek—and, on the same river, the Baypaza Hydroelectric-Power Station, which is being readied for turnover, taken together.

"I will go further," construction chief N. G. Savchenkov emphasizes, "this giant has no counterpart, either in this country or abroad, in level of engineering execution of the design concept."

Erection of the dam, for example, will start soon. It is to rise higher than the Eiffel Tower, to 335 meters. The job is not simple. And the solution is unique: from the procurement, delivery and use of the building materials to monitoring the quality of controlling the operating processes—all this will be undertaken by robotized complexes.

Scientists of the All-Union Scientific-Research Institute for Comprehensive Automation, the Moscow Highway Institute, the Altay Polytechnical Institute, and a number of design bureaus have taken part in creating them.

After putting on my head the helmet called for by accident-prevention rules, I and engineer F. V. Khagay set out for the Gidrospetsstroy tunnelers at the dam face. Within the depths of the mountains, in addition to 39 kilometers of tunnels for various purposes, the machine room is being hacked out at a depth of 400 meters. Six turbines with a total capacity of 3.6 million kW will be installed here. In 1989 the first power unit will yield current, and the others also will be introduced into operation ahead of schedule. This will enable a substantial portion of the expenditures to be recouped while the GES is still being built.

"All the prerequisites for work and relaxation are being created," says gas-and-electric welder Dosty Zakirov. "My wife, Irina, and I and our two children have been allocated a three-room apartment in one of the first apartment houses. It's a stone's throw to the school, store, domestic-facilities combine and kindergarten."

The power-workers village is being built in a picturesque gorge. Wherever you look, the great bulk of a mountain looms.

Almost everyone with whom I talked had in their time gone through school and were building up experience at Nurek. Some of them had been in charge of independent construction projects. Recently a detachment of volunteers under the supervision of former deputy chief engineer of NurekGESstroy [Trust for the Construction of Hydroelectric Stations at Nurek] I. Kh. Bezuglov descended along the Vakhsh River. They were charged with laying out a tent encampment where the seventh, two-stage Sangtuda Dam will cross the river. It, like the Baypaza, will store the discharge waters of the Nurek and Rogun cascades for repeat use thereof during the power grid's peak hours.

Simultaneously, on the Gunt River, which is in Gorno-Badakhshan Autonomous Oblast, the production base for construction of the first above-the-clouds electric-power station, the Pamir, will be laid down by the hands of Nurekers (including the brigade of A. A. Lysenko, who is well known to the country's hydraulic-engineering workers). Waters of the high mountain lake, Yashilkul, whose reserves will supplement those of the Alichur River, which discharges here, will set its turbines to rotating. It is planned that the Bartang, Murgab, Vanch and Shakhdar Rivers, which are at altitudes of 4,000-5,000 meters above sea level, also are to be used for the needs of electrification of Pamir regions that are difficult of access. Especially for those to which the delivery of coal, liquid fuel and gas would cost 10-fold their original cost and is entirely impossible during the winter.

The republic's Gosstroy has shown some designs for the power-engineering mastery of the Pyandzh, a high water level tributary of the Amudarya. The construction of one Dashtidzhum GES here will start during a future five-year plan and it will generate 5 million kW.

"Tajikistan, in second place after the RSFSR in hydro-power resources, has a potential for supporting the needs for electricity of the whole Central Asian region and to participate in large-scale collaboration, on that same basis, with adjacent countries, particularly fraternal Afghanistan, considers I. Kh. Khayeyev, Chairman of the Tajik SSR Council of Ministers.

Each new GES is indeed also a new storage for irrigation water. The arid Dangara steppe, where 24 cotton-growing and viniculture sovkhozes are being created, received on the eve of the November holidays life-giving moisture from the Nurek sea through a 14-kilometer tunnel driven through the Dzhilantau mountain range. A few years earlier, Vakhsh water came to the Yavan and Obikiik valleys over a similar arterial. The bowl of the Rogun sea, the filling of which will start this spring, will hold 13 billion cubic meters of moisture. According to the irrigators' calculations, that will be enough for watering 300,000 hectares of now-vacant mountain slopes in the Garm group of rayons and Kulyab Oblast.

With the help of scientists from the All-Union Scientific-Research Institute of Hydraulic Technology and Land Reclamation, moisture-saving irrigation technologies have been developed which correspond to these conditions: drop irrigation for gardens and vineyards, and synchronous-pulse sprinkling for grass. On the fields of the Gissar experimental grounds I was able to see a remotely controlled system for controlling drop distribution of water in action. Simultaneously it is being used also for introducing in solution form fertilizers, microelements, herbicides and soil amenders. The agricultural technologist has the potential for actively influencing the growth and fruit-forming processes in plants. It is no accident that a ruble of expenditure here obtains 3-fold much output as it does in neighboring kolkhozes and sovkhozes.

The results of the republic's experience have been well publicized. However, there has been no further discussion of the matter of introducing drop-type irrigation. The Agroprom [Agroindustry Administration] blames it on the lack of polymer tubing of special design.

Pulsed sprinkling has been in the production test stage for more than 10 years. Yet the matter of converting to economical technologies for water-resources utilization is severe. This year, for example, much more water has been consumed for irrigating agricultural land than was actually required, because the matter is being handled in an old-fashioned way. As a result, hydropower stations have been left without the required water reserves and power generation has been cut. In other words, these are the two scales whose equilibrium checks on managerial skill in utilizing the warm south's main wealth—water.

11409

Shortage of Power Sources in Republic Noted
18220026c Dushanbe KOMMUNIST
TADZHIKISTANA in Russian 11 Nov 87 p 3

[Article by A. Shirinskiy, scientific staff worker of TadzhNIOE [Tajik Scientific-Research Department of Power Engineering]: "A System Is Needed"]

[Text] The status of Tajikistan's power engineering aroused no anxiety until recently. The six victorious Vakhsh cascades from the Perepadnaya GES to the Nurekskaya GES and the construction of high-capacity industrial centers in Tursunzad and Yavan—all this has been publicized regularly in the press, with overwhelming pride in the native region.

But now, out of the calm and abundance of power, the disquieting words, "solar technology," "small GES's," "the ecology," "the saving of power-engineering resources," and so on have begun to be heard especially persistently in the past three years. It has become obvious that a single economic and even power-engineering feasibility study are not enough for building large GES's, and that

Tajikistan, which is the largest power-engineering component of the Central Asian link, cannot do without power injections from the neighboring republics.

Each agency advances its own paths for solving power-engineering problems, all of them without fail. The Engineering-Physics Institute of the Tajik SSR Academy of Sciences, for example, considers that the mastery of solar energy is the only path. Tadzhikglavenergo [Tajik Main Administration for Power Engineering], together with solar-energy technology, wants to have heat pumps and small GES's. The plant for making coolers, which was not satisfied by the abundant arrival in the republic of solar-energy receivers from Bratsk, decided to arrange for the output of nonstandard parts for their solar-energy receivers. Tadzhikneft [Tajik SSR Petroleum Administration] planned to arrange as soon as possible for the output of solar-energy baths for sale to the populace. The Agroprom [Agroindustrial Administration] and the Meteorological Administration also have not been marking time. On the one hand, this is good in an environment where healthy competitiveness can give birth to a republic power-engineering industry. On the other hand, a striving to bypass competing organizations often does not bring the desired results.

Meanwhile, the authorities' protracted disputes around priority in mastering solar-energy equipment moves the region's remaining problems in power engineering back to last priority. Solar-power technology, which for 10 years has knocked on the door of power engineering, has become a prestigious variant of the power industry, not so much because it is in style as it is a concession to the demands of the day. However, it must be recognized that its introduction is not limitless. Its intensiveness in metals and materials consumption per 1 kilowatt of energy obtained puts solar technology in first place in cost among other types of energy, an indication of the impossibility of its having the superior position.

What is to be done? Where is the golden mean between the traditional and the nontraditional methods of transforming energy, between so-called minor and major power engineering? Who will define the efficient ratio of the various energy sources in Tajikistan's overall power system? Who will be engaged, finally, in finding other sources of energy applicable to the region—since hydro-power and solar technology are not the limit for the future?

No, however much some may count on a future engineering center for solar technology, and others on a possible Geliotekhnika [Solar Technology] NPO [Science and Production Administration], the power engineering of the republic, which possesses a most powerful natural power-engineering potential, cannot do without its own scientific ideological center. A center that would place all power-engineering research under one scientific base. In other words, the republic for a long time has been in need of its own organization capable of performing basic research in regional power-engineering. These

functions, in our opinion, should be performed by Tajik Scientific-Research Department of Power-Engineering (TadzhNIOE). However, having long been subordinate to Energosetproyekt [All-Union State Institute for the Survey, Design and Scientific Research of Power Systems and Electric-Power Grids], which is based in Moscow, on the one hand, and being under the guidance of a person who is indifferent to the problems of the republic's power engineering—more because of a lack of understanding of their essence, on the other, the department of power engineering has practically withdrawn from the functions for which it had been set up originally.

Restructuring rode to the rescue. The collective, finding itself on the threshold of deep changes, felt strong and proved the necessity for a change of manager. It would seem that now is the time to orient it to solution of the republic's basic power-engineering problems. The department's laboratories have coped with those tasks set for them up to now.

But then a teletype message came from the prime institute, which was intended for a negative reaction of the department's staff workers. It inquired about the readiness of the collective to convert from an institute of the first category to one of the second category, to the coverage of a number of topics and to the elimination of two laboratories in connection with the identification of Tadzhikglavenergo as a new prime organization. But the new organization, being operational, was intended to reorient the department's staffworkers to the solution of applied problems, mainly technological ones. Thus it was resolved on a sound basis in well-established offices. The correctness of such a decision provoked doubt, since a reduction of all the republic's power problems to a few applied ones would be intended to satisfy the requirements of the moment.

Most large western companies maintain groups whose spheres of study are defined past the year 2000. This is necessary primarily from the point of view of an increase in power consumption. In our case we are talking not about a company but a whole republic. Tajikistan's power engineering needs a theoretical substantiation for a system that is extremely dynamic both in time and in space.

First of all, in order to determine the place of each energy source in the republic's overall power system it is necessary to make up a kadastr—a law for redistributing natural power potential from one locality to another. At the same time, the construction and operation of power-transmission lines under Tajikistan's terrain conditions were and remain complicated, and this is a constant source of problems which solar technology alone does not solve. And TadzhNIOE has a well-equipped laboratory, the staff workers of which are capable in unison of solving these problems on a scientific basis.

Incidentally, it has been proposed that this laboratory be closed. The department also has the necessary scientific potential for setting up operations for studying ways of solving problems for both major and minor power engineering. The department has an in-house supply and equipment base, and many problems of power engineering would be within its capabilities to solve.

Time passes, and the organization's staff workers remain in ignorance of what is expected of them. The specialists are worried, including those of higher category.

TadzhNIOE, in our view, should create an independent power-engineering institute, as was done with similar

organizations of our neighbors in Kirghizia and Uzbekistan, and should provide them with all the rights of a scientific-research organization with an orientation to systems research of the region's power problems. Grant a state order, which can come from Energoselproyekt, Tadzhikenergo or the Academy of Sciences, and for the remainder put the whole activity on the basis of self-financing and independent determination of the clients. This is dictated by the interests of the times.

11409

LABOR

Problems of Increased Wage Differentials Analyzed

18280008 Moscow *EKONOMICHESKAYA GAZETA* in Russian No 45, Nov 87pp 14-15

[Discussion conducted by N. S. Yakovchuk and S. M. Semenov: "How to Get Away From Leveling: What has Been Shown by the Experiment in Introducing New Conditions for Paying for Labor at NII's [Scientific research institutes] Design Offices and NPO's [Scientific Production Associations]"]

[Text] The forthcoming conversion, next January, of scientific, design and technological organizations to full cost accounting and self-financing is sharpening research and development collectives' attempts to improve efficiency at organizations and to find effective stimuli for activating creative potentials at institutes and design offices.

As comrade M. S. Gorbachev noted in his recent speech in Murmansk, "Workers at scientific institutions should also think about how to put more honey in the socialist hive." He stressed that talented scientific workers pose the question that pay must be for real labor and real contributions.

A business meeting, conducted by the editorial boards of *EKONOMICHESKAYA GAZETA* and in *SOTSIALISTICHESKIY TRUD*.

Its participants were managers and economists from scientific research and design organizations, scientific production associations and workers in ministries, GKNT [State Committee on Science and Technology], USSR Ministry of Finance, and the USSR Goskomtrud [State Committee on Labor and Wages].

The practical introduction of new conditions for paying for labor at NII's, KB's and NPO's at design and technological services in production associations at industrial ministries and the Academy of Sciences began this were. There were considerable expansions in the nomenklatura of positions, broad "vilki" [cabbage heads] for salaries were set. If they perform especially important work, workers were authorized to receive bonuses not subjected to limits.

Wages for Services

What has changed since the time when managers at scientific research institutes, design offices and plant design and technological services were given the right to set salaries for workers depending upon their personal contribution to speeding up scientific and technical progress? The conversion from payment for holding a specific job and presence at work to payment for results

from scientific and design work required a profound psychological break. Many expressed their doubts: was it possible in science to establish payment for work results?

Time has passed. Let us listen to managers of large, influential scientific collectives, which are energetically trying to get away from leveling.

A. Nelyubov, general director of the VISKOM Agricultural Machinery NPO:

For us the conversion to the new conditions for paying labor was very painful. Following certifications we had to reduce the staff by almost 100 people and lower job ratings for 90 people. Most importantly, we very seriously "went over" the unit managers. Many received sharp reductions in pay — 90-100 rubles — due to low efficiency. Priority was given to technical standards, the patentability of developments and the sales of licenses. On the average we increased pay at the institute by 12 percent, with 260 individuals getting raises.

What sort of results were obtained during the year? Output per person increased by about 15-18 percent. However, I do not think that this is the most important. What is, is that people's creative activities have undoubtedly improved.

V. Zuyev, chief engineer, Spektr NPO :

For us the conversion to the new form of payment was quite painless, because, starting in 1985, we have been working under the "Leningrad experiment". We conducted a person-by-person certification and reduced the staff by 46. We only had to fire two, the remaining quit on their own, knowing that their work was not up to the new requirements. Salaries were increased for 143 scientific workers, 62 designers and 33 technologists.

However, from the very beginning we thought, and still think, that increased pay is not a goal for which we are ready to break our lances. The goal is to improve work efficiency and get real returns. We have started thinking about how to do this so that these increased wages will will pay off.

We developed time norms for various stages in scientific research and design work. We determined the labor intensiveness of such work and on this basis introduced time norms for setting the individual monthly production targets for each associate. Our norms are about triple the average countrywide levels.

During the "Leningrad experiment" and work under the new conditions, the time from the beginning of scientific research to the beginning of an item's series production was reduced at our NPO from 3.5 to 2 years. Returns per ruble of inputs increased from 2.5 to 3.8 rubles.

Questions from the meeting.

You reduced times, but what about quality? How many developments meet world standards.

V. Zynev: According to the plan, during this five-year plan all our developments must meet or exceed world standards. We are going beyond this figure. For developments, and for production — by about 28 percent.

A. Ipatov, deputy director of the Scientific Research Institute for Motor Vehicles, USSR Minavtoprom [Ministry of the Automotive Industry]:

Our institute is old, created by a decree by Lenin. This has its influence on the collective and its traditions. However, honestly speaking, we lived on subsidies from Minavtoprom and the GKNT. We got used to this. Suddenly, the institute had to find its own resources for new salaries. We reexamined the structure, reduced secondary themes in the plan and reduced staff by 122 ITR [engineering and technical workers]. Certification was carried out in a new way and not as it had been done in previous years. It turned out that 12 percent of those certified did not meet requirements for their positions.

Overcoming stereotypical thinking was the most difficult. For 30 years scientific workers' pay has depended directly upon seniority. It takes time to restructure pay to depend upon contributions.

What have the new pay conditions given us?

At the institute's initiative we increased this year's work volume by 1,600,000 rubles, or 11 percent. Most of these targets were coordinated with the GKNT: for developing future models of automobiles, truck engines and components specifications.

For the first time in many years it has become possible to give incentives to people engaged in promising work.

Flexibility in pay makes it possible for us to have competition in design. For example, two models of cars for the year 2000 are being created.

G. Sarychev, deputy director of the All-Union Scientific Research Institute for Lighting Technology:

Restructuring the pay system impelled the collective to improve labor organization. Temporary creative brigades were set up. They turned out to be far more productive than ordinary units. In 5-6 months (instead of the usual 2 years) one brigade developed a series of domestic lamps with compact fluorescent lights and electronic converters. This new generation energy saving lamp is enjoying great success at interpublic wholesale fairs. We have paid its developers amply.

Following certification we placed very young associates at the head of several departments.

N. Trofimov, general director Stekloplastik [Fiberglass] NPO:

Undoubtedly, the new types of incentives make it possible to reduce development time and to improve quality. I will give an example: Our directive organs required us to publish initial data for doing about 30 million rubles worth of construction-installation work. It was difficult work and required major research. The plan called for this to be completed in two years. We completed it in one, using the entire range of stimuli: the brigade form of work organization, raises and incentives.

The main value in the new pay condition is that it makes it possible to set a worker's salary independently of degree or knowledge and to attract gifted young people into science.

So, have all problems in differentiating research and development work with regard to their real contribution to science and technical progress been successfully solved? Unfortunately, no. Reviews conducted by ministries and departments and the USSR Goskomtrud show that restructuring pay causes a feeling of incompleteness and dissatisfaction.

V. Kharin, chief, Department of Scientific and Design Organizations, USSR Goskomtrud:

I recently reviewed the institutes at the Armenian SSR Academy of Sciences. They have moved forward. Those scientists who have worked there for long periods received quite sizable raises, about 50-100 rubles. However, at each department there is usually one person who is pulling along scientific work in the department.

In general, no fundamental changes have been made. In the institutes there are still quite a few people who are working poorly, who are not capable of doing science, or are very old. For example, at the Georgian SSR Academy of Sciences' Institute of Physics and Organic Chemistry prior to the introduction of the new conditions about 20 percent of the staff had reached retirement age. This remains the same!

In other words, there has been a change in attitudes: the new approach is gradually proving itself. However, the pay changes have so far only affected some workers.

Bonuses

In explaining the considerable results attained in scientific and design collectives thanks to the new pay conditions many of the speakers stressed that the effects were not so much due to increased salaries (workers very quickly get used to raises and consider them to be deserved) as they are due to the flexible use of effective means such as short term bonuses for the successful fulfillment of especially important and responsible work.

At the Spektr NPO, for example, bonuses, ranging from 20 to 180 rubles a month, are now paid to 441 people.

According to present rules the procedures for granting and paying bonuses are determined by the labor collectives themselves. However, many of them do not have precise criteria for determining what is especially important work. Therefore, the practice of granting bonuses is very contradictory. The results differ correspondingly.

S. Kusmin, general director of the Neftekhimavtomatika [Petrochemical Automation] NPO reported that the collective at this NPO decided to pay bonuses only for work which meets world standards. Only five designers have gained the right to receive such bonuses.

I. Slavin, deputy director for scientific work at the VNII for Trade Machinery Building:

In general, the institute had not previously been oriented towards priority developments. The introduction of the new pay conditions impelled us to reexamine our tasks and form temporary creative collectives capable of handling these tasks more quickly and at high standards. How do we view the procedure for establishing incentive bonuses? The sums allocated from the wages fund for bonuses are given to the most important research themes based upon two criteria: the labor intensiveness of work and the estimated effects. Then the list of work which is to receive bonuses is presented to the collective for discussion and approved by a voice vote.

After this collectives are formed to complete the entire work cycle. The entire sum of bonuses is established for the entire theme prior to beginning the work. This is done in a specific manner, by stages (taking labor intensiveness into account) and by performer. They are "broken down" by the collective leader. Bonuses are paid only after the work is completed and delivered to the customer or manufacturing plant.

At the NAMI [Scientific Research Institute for Motor Vehicles] bonuses are paid for KTU [Labor participation factors]. This procedure works as a good incentive: Bonuses are increased for those who have fresh design ideas. This causes a flood of creative activity and competing alternatives.

Premiums

The discussion showed that after the right had been granted to give fruitfully working scientists and designers incentives in the form of temporary, unrestricted bonuses, scientific research institutes' and design offices' interest in the traditional system for awarding premiums weakened markedly. It was obvious how sharply the psychology of managers had changed when economic tools were put into effect and it became necessary to

evaluate each subdivision's work. In place of an dependent attitude, how to "rip off" more incentives funds for one's own organization, it becomes necessary to have a genuinely proprietary concern about general state interests.

Thus, **A. Ipatov** expressed disbelief about the new Statute on the formation of economic funds which was published last year by the GKNT.

He said: The Party's decision about improving machinery quality forbid equipment to be produced which does not meet world standards, while the GKNT statute proposes awarding bonuses for these developments! As you know, it is proposed to allocate bonus money, even though smaller amounts, for the creation of such equipment. Why is this being done?

N. Trofimov, general director of the Stekloplastik NPO and **S. Chernykh** director of the VNII for Organic Synthesis and other speakers expressed serious concern that the Statute on forming economic incentives funds continues to orient designers towards momentary effects, while large scale technological plans and fundamentally new work directed towards the long term is in a worse situation. At the NAMI Department for Motor Vehicle Engine Systems, which mainly does small, economic contract work, not setting scientific-technical standards, incentives are about 5-7 fold higher than at departments engaged in long term developments, even though the institute's main task is, in fact, trend setting developments oriented towards 10-15 years into the future.

N. Trofimov: As the director I have to "give", so that scientific departments will work more on large technological developments. It is good that the new forms of pay grant me the right not only to "give", but also to have an economic influence. I now say: "Here is 10,000 rubles. Here is the task. Find a solution. Finish in such and such a time — all this is yours. If you do not finish — you get nothing."

All the same, the established systems for awarding premiums require radical review. It is necessary to find stimuli for large scale technological work. By replacing one part with another, one can obtain a colossal effect in a given area, but the economy as a whole does not gain very much. The techno-economic standards of production remain the same. In general, the country's economy is influenced by those large technological projects which, in the final account, should be the focus of sectoral science, but which today are in a very bad situation with regard to premiums.

Certification

Many speakers at the business meeting expressed the thought that changes in the pay system impelled institute collectives to work in new ways and critically evaluate their tasks, more precisely specify them in the future,

reexamine organizational structure and certify both structural units and associates. Thus, at the Komplex NPO, according to reports by its general director V. Gushchin after the conversion to new pay, only 23 of 73 structural units remained.

V. Abatina, head of the Labor Organization Department, USSR Ministry of Nonferrous Metallurgy:

During the conversion to new pay conditions, 99 units (laboratories, departments and groups) were eliminated in the 27 NII and 13 design offices in our ministry. The total staff was reduced by 4 percent, and at some institute by 10-11 percent, and the number of released continues to rise.

K. Pashkevich, deputy chief, Machine Building Department, USSR Goskomtrud, explained the results of reviewing and analyzing the application of the new conditions for paying labor at NII's and KB's. In particular, he noted:

Proper work is being done by those institutes which are not linked to the old inert structure, but were able to change it for the new tasks.

K. Pashkevich explained the experiment at USSR Minelektroprom's Kharkov Institute. This began when the institute, which had orders from 100 plants in the sector, grouped them into 4 comprehensive programs and evaluated its thematic plan, comparing it to world developments. After this it conducted a well based certification of associates. During the transition it reduced the number of associates by 15 percent, and as of today, by 25 percent of 950 people. A quarter of the institute! The salaries of one-third of the scientific workers were raised by 50-60 rubles per month, and some received raises amounting to 100 and more rubles per month. Bonuses ranging from 20 to 130 rubles per month have been established. However, this marked differentiation of pay required an informal evaluation of each associate.

V. Zuyev said: Certification at Spektra showed that there were three categories of workers. The main group, which can and wants to work as it should, and wants to obtain good pay for good work. The second category was comfortable with the previous situation. It does not want to work more intensely and is not trying to increase its pay. The third, quite small group, frankly consists of do-nothings. The certification made it possible for everyone to "find their place."

One can, perhaps, say that future success, or lack of it, in the new forms will be determined by worker certification. However, at many institutes it is still only done formally.

P. Dubovoy, leading scientific associate, VNII for the Organization, Management and Economics of the Petroleum and Gas Industry:

Our certification was primarily by personal reports presented by unit managers. How did it turn out? All managers embellished the reports. Read any one of them and you would want to present the person an award. Some scientific workers wrote about themselves. A managers' psychology is — the better the workers under me look the greater my merit as a manager. The other reason for embellishment is the need to retain the initial wages fund, and this requires a full staff of workers in the unit. Do such certifications make much sense? It is necessary to introduce criteria and use computers to evaluate them on a point basis.

A. Ipatov: We were also given unobjective personal reports during certification.

From the floor: Excessively good or bad?

A. Ipatov:

Mostly excessively good and embellished. For this some managers received the punishment they deserved. However, it is hardly possible to put a person's entire work activities and potentials on any sort of machine and, by pressing a button, obtain an answer as to the position and salary which the individual deserves. In science everyone knows how much someone is worth. The main thing is not to be afraid of frankly stating it.

The experiences in certification discussed at the meeting are clearly evidence that success depends upon how an atmosphere of exactitude and open, impartial criticism and self-criticism is created in collectives.

The New Economic Mechanism

Participants noted that the new pay conditions did not take into account the need for a conversion to economic methods in the management of science. Now, as the principles of full cost accounting and self-financing are being introduced into science organizations, the incentives for effective work should walk in step with other elements in the new economic mechanism.

Pay is by no means always the decisive factor in scientific progress noted N. Trofimov. It is important to create a system of normatives such that science and industry will have equal interests in one another. That is, a scientific development should influence the efficiency of industry. The greater the efficiency of industry the higher should be its support of science. This is now possible at NPO and GPO with production volumes sufficient to finance science.

S. Chernyukh, director of the NII for Organic Synthesis, said: We are seriously concerned about successfully preparing for the conversion to full cost accounting. With the January conversion of enterprises in our ministry to full cost accounting the institute will no longer receive workers incentives allocations from the introduction of processes they have created. While previously

such allocations were almost automatic, now plants guard their incentives funds and do not want to give anything to anyone. These difficulties await all institutes. For us they have become more profound because we are conducting long term and expensive work: the creation of organic synthesis processes, this costs hundreds of thousands and sometime millions of rubles. Their introduction is also expensive. Are enterprises always able to pay for such developments?

Will the ministry have sufficient resources to handle a state order to develop a new technology? The GKNT and Gosplan should not permit reductions in the level of developments undertaken by sector science.

The second question, actively discussed in connection with the forthcoming conversion of institutes to full cost accounting, was the formation of wages funds.

Normatives for Wages Funds

How can one provide advantages in incentives to those collectives who are doing better work? This can be done by setting "subsidized" normatives for wages fund formation for those who are doing work and creating technology meeting the highest standards.

Two years ago the decree "On Improvements in Paying for the Labor of Scientific Workers, Designers and Technologists in Industry" first formulated a normative method to set up a wages fund for scientific, design and technological organizations and services. This was a great step forward.

However, the organization's work volume served and still serves as the platform for calculating the normative. Participants at the meeting pointed out that such an approach does not take into account a collective's real merits and its rights to incentives. This is because the "completed work volume" applicable to NIOKR [Scientific research and design work] means nothing other than the costs to maintain the given organization or service. *Ekonomicheskaya Gazeta* has repeatedly written about this (No 11, p 12-13, No 25, pp 6-7). A speaker noted that such a "mechanical" normative to costs does not reflect difficulties and the laboriousness of a process.

This example was given: Identical normatives were given to two institutes in the Academy of Sciences. This seemed to be justified. However, one institute works with cobalt, the cost of which is included in base costs. Correspondingly, it has an "excellent" wages fund. The other institute works with iron; its wages fund is "nowhere".

G. Filippov, director, VNIAtomash [VNI for Nuclear Power Plant Machinery Building]:

It is my deep conviction that nowhere, not in any of the institutes, is the normative for the formation of the wages fund depending upon work volume working effectively. Say that we are given a quite decent normative — 39.5 percent of total work volume. If I so desire I can, by changing various factors influencing work volume, raise the wages fund to unattainable heights. Naturally, however, nobody will let me do that, that is not even required.

It appears to me that the GKNT, Goskomtrud and our planning organs should direct their main attention towards the creation of a substantiated normative for the wages. With the conversion to self-support and self-financing the lack of such a normative is becoming the main brake.

With conversion to full cost accounting orders for NII work will be based upon direct contracts with enterprises and associations interested in such projects or upon state orders.

Scientific products are now deemed commercial products and will be sold at contracted prices. Incentives funds will depend upon profits. Under these conditions we will in no way limit the outlays for science, stressed N. Ayrapetyan, chief, Department for the Management of Finances for Education, Science and Culture. However, a very pressing question arises: How can the wages fund be formed under these conditions? While previously it was possible to set a conditional limit, say 30 percent of costs, and there you had your wages fund, today it is a fundamentally different situation.

It seems to us that for applied work one can use the same approach as in industry: linking the normative to the work's importance and scientific-technical level. This will establish a more justifiable linkage between results and earnings. However, many things are still unclear about this. It is especially complicated for institutes which are not included in a scientific-production association. As a rule, these are powerful scientific centers in a sector, which, in addition to applied work, do basic research. In order to work out an optimal system of normatives we must work together — with practical workers, managers and economists at NII, enterprises and associations.

The New System Today: Pluses and Minuses

Thus, according to the participants of the meeting, the new conditions for paying labor and stimulating developers:

Has made the pay system more flexible, bonuses serve as good stimuli

Has made it possible to have competition in collectives;

Made science attractive to gifted young people without degrees in science;

Is sharply changing the psychology of people, is better than any appeals and sanctions at making them work better, complete research and developments faster and with smaller staffs.

At the same time participants at the meeting noted a number of negative factors.

Old psychological stereotypes still prevail over many scientific collectives. Managers make poor use of the rights they have been given, as their exercise requires restructuring all relations in the collective.

Changes in pay still only have touched one out of 10 workers at NII's and KB's. Their average earnings increased by 3.7 percent.

Managers' indecisiveness, fear of complaints and of "spoiled relations" delay the restructuring of pay.

There has still been no success at linking the pay levels at each collective with the technical levels of developments and products. There are no precise criteria for workers' personal contribution to scientific-technical progress.

There still remain totally unjustified major differences in the salaries of scientific workers and designers with similar qualifications. The multitude of schemes for salaries, various pay conditions used in different units at NPO's, PO's, NII's, KB's and experimental plants create artificial barriers to transferring workers from one section to another and prevent managers from maneuvering financial and labor resources.

The GKNT, USSR Gosplan and Goskomtrud must develop a methodology for determining norms for the formation of wages funds at science and design organizations.

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DEMOGRAPHY

Demographic Profile of USSR Population Growth Presented

18280012 Moscow *EKONOMICHESKAYA GAZETA* in Russian No 46, Nov 87 pp 18-19

[Unsigned article: "Social and Demographic Portrait of the Land of the Soviets"]

[Text] For the history of a country 70 years is a short period. For man this is an entire life, the life of more than one generation.

Generation in an ordinary sense is a very conventional concept. However, it right away acquires concreteness if one looks at the history of a country through the prism of demography—science studying the renewal of generations of people and reproduction of the population in its

social and historical conditionality. In this case a generation can be even measured "lengthwise," that is, by the time interval, on the average, dividing parents and children. How many generations in a particularly demographic sense have replaced each other during these 7 decades of our history? It turns out, only three. However, the size of the country's population, its distribution according to spheres of employment and income sources, composition by sex and age, family structure, settlement, and education—all this has undergone such changes that, probably, it is rare that someone out of those that prosper at present remembers and hardly anyone knows what the population of Russia and its outlying districts was like before the revolution.

The comparisons of modern achievements with 1913 are not always used now and, moreover, they give little when yesterday and today, the past and the present are contrasted by such a "method." However, an exception can possibly be made for demographic comparisons—this is so interesting and instructive.

What the Population of Prerevolutionary Russia Was Like

At the end of 1913 the population totaled 159.2 million and it was primarily rural. Only 18 percent of the population lived in cities (there were only 666 of them).

In tsarist Russia infantile mortality was one of the highest. For example, almost one-half of the children did not reach the age of 5 and the average life expectancy was 32 years (15 to 18 years less than in the United States, England, or France).

Women and children had only nine clinics at their disposal and nurseries and kindergartens virtually did not exist. About four-fifths of the school-age children did not have the opportunity to study and almost three-fourths of the population aged 9 to 49 were illiterate—in villages, four out of five residents. About 290,000 people had higher, incomplete higher, and secondary specialized education. Basically, they were representatives of privileged strata (noblemen, landowners, and the clergy). The people in the country's outlying districts—Central Asia, the Far North, and some other regions—were in an especially difficult situation.

For example, before the revolution there was not a single higher or secondary specialized educational institution on the territory of Tajikistan, Turkmenia, and Kirghizia and only boys studied in the few schools.

What the USSR Population Became

After the victory of the Great October Socialist Revolution the population almost doubled (we would like to note, despite the tremendous losses during civil and Great Patriotic wars) and now we have about 284 million people. Two-thirds of the population lives in cities. Almost 1,300 cities were added in the country

during the years of Soviet rule. The number of cities with a population of more than 1 million alone is now 23—almost the same as that of cities with a population exceeding 100,000 in tsarist Russia.

Infant mortality decreased 11-fold and life expectancy more than doubled. More than 164 million people have higher and secondary (complete and incomplete) education, including about 52 million, higher and secondary specialized education. The number of women's clinics and children's polyclinics and dispensaries exceeds 28,000. More than 16.5 million preschool-age children attend kindergartens and nurseries.

Since the first days of Soviet rule the party and the state have published documents determining the strategy of the country's demographic development. Population problems are reflected in party programs, the USSR Constitution, materials of party congresses and plenums, and national economic plans. During the years of the civil war and the intervention the 8th party congress (March 1919) determined in the second party program a set of measures envisaging an extensive development of public health and education and improvement in housing conditions, labor protection, and social security.

The right to labor, rest, education, and material security in old age, granting women equal rights with men in all the areas of economic, state, cultural, and public life, and citizens' equal rights irrespective of their race and nationality became the basic laws of life from the first days of our state's formation.

The first all-Russian census of the population's demographic and occupational composition in 1920 and the urban population census in 1923 combined with the census of industrial and trade enterprises were held under the most difficult conditions of hunger and economic chaos. Specialists relied on the data of these censuses during the development of the GOELRO [State Commission for Russia's Electrification] plan. The first long-term calculations of the USSR population for 1921-1941 were made on their basis under S. G. Strumilin's guidance.

The USSR population census held on 17 December 1926 collected a wealth of material, which made it possible to make new population forecasts, including for individual regions—the Ukraine and the European part of the RSFSR. When a decline in mortality was forecast, plans for the development of public health and the achievements of domestic and foreign medicine were taken into consideration. Since that time the Soviet demographic school has won high prestige in the scientific world.

The rapid rates of the country's industrialization at the end of the 1920's and the beginning of the 1930's brought about a significant involvement of additional manpower in industry and, consequently, a rapid growth of cities, especially big ones. In 1928-1932 alone the number of workers and employees in Moscow—the

capital of the USSR—increased from 0.7 to 1.7 million and the average annual rates of population growth were 6 percent higher there. It is quite understandable that such a rapid development of the city gave rise to a number of social and economic problems. The June (1931) Plenum of the All-Union Communist Party (of Bolsheviks) discussed them. It discussed them and adopted a decree aimed at an administrative regulation of the growth of the population of Moscow and some other USSR cities.

The system of material assistance to families with children was introduced in the 1930's and then it was constantly developed and improved as far as the country's economic capabilities permitted at that time.

On the whole, the demographic development of the prewar period was characterized by a certain decline in the birth rate and rates of natural population growth (the gross population reproduction coefficient declined from 2.6 to 2.1 in 1926-1939), a significant decline in infantile (1.5-fold) and general (1.6-fold) mortality, high rates of urbanization (in 1926-1939 the urban population increased 2.1-fold), a rise in the population's cultural and educational level, and an increase in territorial and social mobility.

World War II, whose main burden lay on the USSR, interrupted the country's planned economic and social development. The war inflicted tremendous damage on the country's population and economy. We lost more than 20 million people and 1,710 cities, more than 70,000 villages, and tens of thousands of enterprises, kolkhozes, schools, and hospitals were destroyed. As a result of the vast losses of the male population and the sharp drop in the birth rate during the war years, the population's age and sex structure was greatly deformed, the consequences of which we felt as the "demographic echo of the war."

That "echo" resounded throughout our country's territory for a long time and is felt even now. Nevertheless, during the most difficult time—July 1944—a new legislative act was adopted, strengthening material and moral support for motherhood, awards to mothers who gave birth to and brought up five children and more were instituted, and a system of one-time and monthly grants for families with many children was established. Their goal was to equalize the living standard of families with a different number of children and to help families deprived of a breadwinner.

The first postwar five-year plans. The economy in the European part of the USSR destroyed during the war was restored, new resource and industrial bases in Siberia and the Far East were developed, and virgin and long-fallow land was opened up. The demographic development of that period (1950's) was distinguished by a rise in the birth rate, further decline in mortality, increase in

life expectancy, rapid growth of cities, and women's active involvement in the sphere of public production. The prewar population was restored in the country by 1956.

Active Position of Demography

Nevertheless, the favorable nature of the dynamics of demographic processes as a whole did not contribute to the activation of serious scientific research in the population area. Moreover, it created among a number of economists and sociologists illusions of "automatism" of positive demographic development as a reflection of economic and social progress. The underestimate of in-depth mechanisms of the complicated interconnection of economic and demographic development did not make it possible, in particular, to promptly foresee the reorganization of the entire structure of the population's demographic behavior in the area of family formation and the attitude toward child bearing and factors in the population's migratory mobility, which began to affect the country's demographic development during the second half of the 1960's.

Meanwhile, the economic growth of the 1960's and 1970's expanded the material opportunities for the accomplishment of long-term tasks, which also brought about an objective increase in the need for a directed effect on demographic processes and for a formulation of the problem of search for the optimal type of population reproduction in the country as a whole and in individual regions. The scientific and organizational prerequisites for the activation of demographic research in the country also appeared. A demography department at the Scientific Research Institute of the USSR Central Statistical Administration, a center for the study of population problems at Moscow State University, a demography department at the Institute of Economics of the Ukrainian SSR Academy of Sciences, and a problem population laboratory at Tashkent State University were established during the second half of the 1960's. The training of specialists in the area of population economics and demography began at the Faculty of Economics of Moscow State University.

Finally, a system of knowledge of the population as an integrated and independent branch of social sciences was formed. However, nor did the period of stagnation in our social sciences bypass demography.

Positive shifts in the attitude toward demography and demographic policy have occurred only in recent years, when measures have begun to be taken to intensify state assistance to families with children and to further improve social security for the population.

Scientific organizations have begun to develop regional programs for improving the demographic situation in Moscow, Latvia, Estonia, and Bashkiria. Recently, attention has been paid to some improvement in demographic indicators: a rise in the birth rate, decline in mortality,

increase in life expectancy, and halt in the rise of the number of divorces. However, the dynamics of demographic processes is more complicated than its reflection in general indicators.

For example, the birth rate. Its rise, which has been observed in the last few years, is the result of both the recently taken measures to increase state assistance to families with children and of the favorable age structure: The numerous cohort of people born at the end of the 1950's and the beginning of the 1960's has passed the age of 20 to 29, which accounts for more than two-thirds of all the births. Now this cohort is gradually being replaced with people born at the end of the 1960's, when the smallest number of children during postwar years were born—slightly more than 4 million annually. Consequently, there are new problems ahead—problems connected with the decline in the birth rate and with the new trough of the "demographic wave."

Nor should the positive shifts in mortality indices be overestimated as yet. They exist. For the time being, however, in the average life expectancy we have returned only to a level, which was also periodically attained before. In the last 5 years the mortality of the population aged 20 to 39 has been lowered by 28 percent. But at ages over 40 the mortality indices according to age groups noted during the first half of the 1960's still remain minimal. They are 15 to 35 percent lower than the indices of 1985-1986. The same can be also said about mortality in the youngest ages—under 5 years.

Unfortunately, we must state that there is an increase in the gap in infantile mortality indices between Central Asian republics (a high level) and Belorussia, the Ukraine, and the Baltic republics (a low level). Such a tendency is due to the decreased attention to the development of the social sphere permitted by the leadership of Central Asian republics in the 1970's and the beginning of the 1980's.

The need to intensify social policy was pointed out in the decisions of the 27th CPSU Congress and subsequent plenums of the Central Committee of the party. The plans for the country's social and economic development envisaged the implementation of major measures for the development of public health, primarily for the protection of mothers and children.

Demographic policy, which has been activated in recent years, is directed toward the accomplishment of these tasks. Here are the latest examples: The ukase of the Presidium of the USSR Supreme Soviet "On Expanding Privileges to Working Pregnant Women and Women With Small Children" was adopted at the beginning of September of this year. Certain articles of the Fundamentals of Labor Legislation of the USSR and Union Republics were changed and supplemented. Women with children under the age of 3 were given the right to demand a transfer to jobs with an incomplete work day

or week. Women on leave, who took care of children until they reached the age of 1 and 1/5, received the right to work at home, or under conditions of an incomplete work day.

A decree of the USSR Council of Ministers and of the AUCCTU on increasing the length of the paid period in connection with the care of a sick child from 7 to 14 calendar days was adopted quite recently. Extending paid prenatal leaves for working women from 56 to 70 days and partially paid leaves for the care of children to 1 and 1/2 years and of unpaid leaves to 2 years is next. Preschool children's institutions for almost 1 million places are to be built in 1988. Qualitative shifts in public health are expected. The system of general, special, and higher education is restructuring its work.

To be sure, all this will be reflected in the improvement in the conditions of the population's development and in demographic processes.

The 70th anniversary is not only an occasion to evaluate our achievements and to soberly weigh unsolved problems. This is also an occasion to ponder over what the next generation will be like, a generation, which will be born during the last decade of the 20th century and will welcome the 100th anniversary of Soviet rule at an age at which its representatives will complete their occupational formation and build families. The man (or woman), with whose birth our country's population will reach 300 million, will also be in this generation.

The continuity of the basic directions in demographic policy as an organic part of our social program and the active position occupied by demography in social sciences, undoubtedly, will make it possible to correctly evaluate the tendencies and consequences of the existing situation and to take them into consideration during the adoption of decisions in various spheres of sectorial and regional planning and management: in public health and

social security, in the training and education of personnel, in housing construction, in the production of consumer goods, and in the service sphere.

All of us—society, family, and man—will benefit from this.

The distribution of all residents into working and not working in public production pertains to one of the population's significant characteristics. In the Soviet Union unemployment was abolished in 1930. Every USSR citizen has the right to work, which is ensured by the socialist economic system and the steady growth of productive forces.

The number of those employed in national economic sectors is increasing constantly. According to the data of the 1959 census, it was 99.1 million, or 47.5 percent of the country's total population; of the 1970 census, 115.2 million, or 47.7 percent; of the 1979 census, 134.9 million, or 51.5 percent. According to the results of the 1985 social and demographic sample survey, the share of those working at enterprises, institutions, and organizations reached almost 52 percent. Pensioners, scholarship students, and dependents of some people constitute 48 percent of the population.

The proportion of pensioners and other individuals on state security is growing. This is connected with the increase in the number of elderly people of pension age. The number of pensioners increased from 20 million in 1959 to 57 million in 1986. The share of dependents and people employed in the private subsidiary sector declined noticeably. The reduction in the number of dependents is the consequence of the decline in the birth rate and rise in employment, as well as the result of the increase in the number of scholarship students.

Some Indicators of the Demographic Development of the USSR in 70 Years

	1913	1970	1986
Population (million people)	159.2	241.7	278.8
including: urban	28.5	136.0	182.9
rural	130.7	105.7	95.9
In percent of the total population:			
urban	17.9	56.3	65.6
rural	82.1	43.7	34.4
Number of men (million people)	79.1	111.4	130.9
of women	80.1	130.3	147.9
In percent of the total number:			
of men	49.7	46.1	47.0
of women	50.3	53.9	53.0
Number of people born (thousand)	7236	4226	5611
Per 1,000 people:			
number of people born	45.5	17.4	20.0
number of people dead	29.1	8.2	9.8

Some Indicators of the Demographic Development of the USSR in 70 Years

	1913	1970	1986
natural growth	16.4	9.2	10.2
number of marriages	—	9.7	9.8
number of divorces	—	2.6	3.4
Infantile mortality (per 1,000 people born)	269	24.7	25.4
The population's average life expectancy:			
(in years) total population	32.0*	69.4	69.6
men	31.0*	64.5	65.0
women	33.0*	73.5	73.6
Number of mothers with many children receiving a monthly state grant (thousand)			
total	—	3211	1953
including: with four children	—	1172	818
with five children	—	782	444
with six children	546	262	
with seven children and more	—	711	429
Number of persons receiving pensions (at the end of the year; million people)	—	41.3	56.8
including by age	—	24.9	40.5
Number of children at permanent pre-school institutions (at the end of the year; thousand)	—	9281	16538

*1896-1897.

The Soviet Union is a country where the population has a high educational level. In our country almost 90 percent of those employed in the national economy now have higher and secondary (complete and incomplete) education. According to the data of the 1897 population census, in tsarist Russia almost three-fourths of the population aged 9 to 49 were illiterate.

After the Great October Socialist Revolution illiteracy was liquidated in a short period.

Systematic work on raising the population's educational level is carried out and universal secondary education for youth is implemented in the USSR. The network of vocational and technical educational institutions has been developed widely. During the 1979 population census 139.1 million people with higher and secondary (complete and incomplete) education were recorded. In 1987 there are 164.3 million people at this educational level, including 24.3 million with higher and incomplete higher education, 30.9 million with secondary specialized education, 65.4 million with secondary general education, and 43.7 million with incomplete secondary education.

Small individual farms predominated in the country's agriculture at the beginning of socialist construction. The country's industrialization, cooperation of agriculture, and the cultural revolution gave rise to a totally new social population structure. The working class, kolkhoz

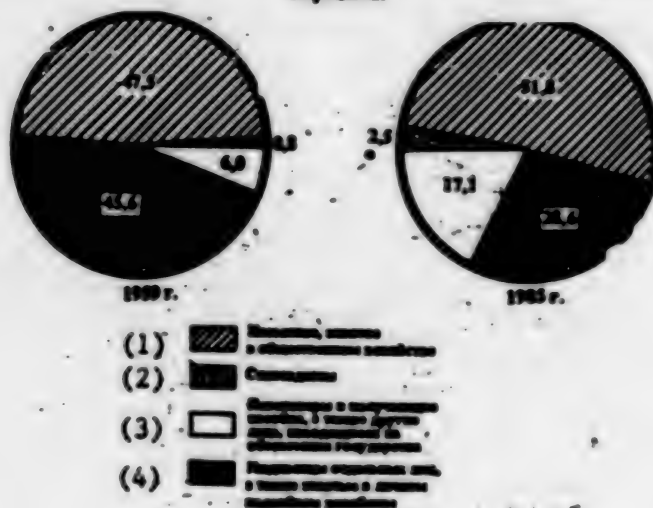
peasantry, and intelligentsia became the basic social groups. By 1939 the share of workers and employees with families increased to 50.2 percent. The proportion of kolkhoz peasantry and cooperated handicraftsmen in the USSR population increased from 2.9 percent in 1928 to 47.2 percent in 1939.

During the postwar period in connection with the rise in the level of mechanization and labor productivity growth in agriculture some kolkhoz members changed over to work in other national economic sectors. A number of kolkhozes were transformed into sovkhozes. Therefore, the share of kolkhoz peasantry is declining. According to the data of the 1979 census, kolkhoz members (including nonworking family members) totaled 39.2 million, or comprised 14.9 percent of the total population. In 1987 they account for 12 percent of the country's entire population.

In prerevolutionary Russia the population reproduction was characterized by high birth and death levels. In 1913 a total of 7.2 million people were born and 4.6 million died, or 45.5 and 29.1 people per 1,000 respectively.

The profound social and economic transformations carried out during the years of Soviet rule led to a sharp decline in the death rate. At the same time, with the rise in the population's educational level and women's involvement in public production there was a decline in the birth rate.

КОМПОНЕНТЫ СОСТАВА НАСЕЛЕНИЯ СССР
в процентах



Key:

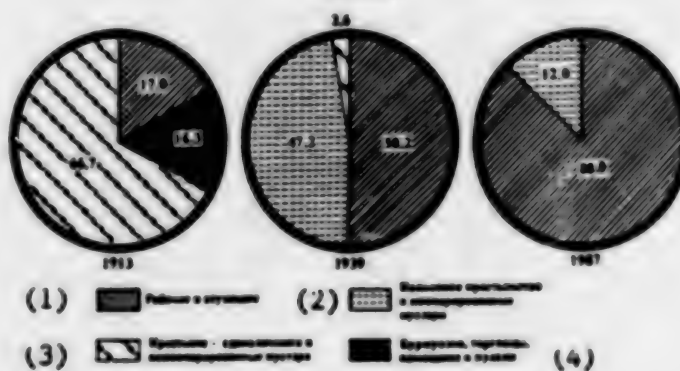
1. Population employed in the public sector
2. Scholarship students
3. Pensioners and those receiving grants, as well as other people on state security
4. Dependents of individuals, as well as people employed in the public subsidiary sector

From 1950 through 1965 the natural growth (per 1,000 people) declined. Subsequently, it was stabilized at the level of about 1 percent annually.

This publication was prepared by the Center for the Study of Population Problems at Moscow State University imeni M. V. Lomonosov, the USSR State Committee for Statistics, and the Department for Labor and Development of the Social Sphere of *Ekonomicheskaya Gazeta*.

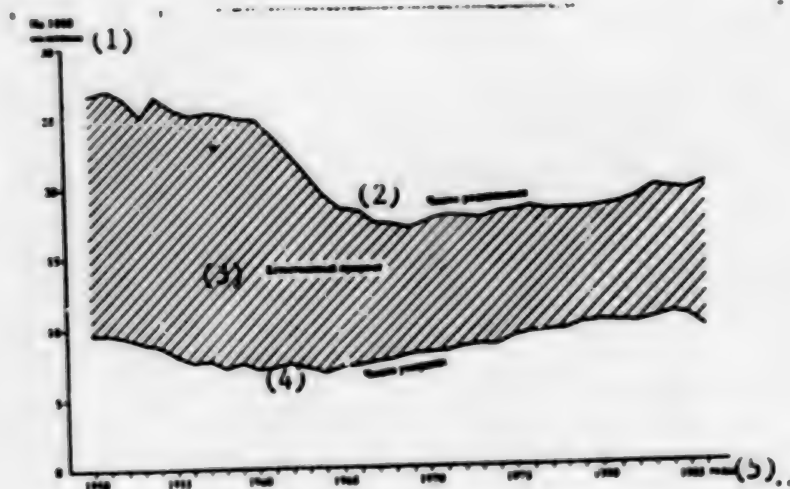
In the last few years the general indices of births have increased slightly and of deaths, decreased.

КОМПОНЕНТЫ СОСТАВА НАСЕЛЕНИЯ СССР
в процентах



Key:

1. Workers and employees
2. Kolkhoz peasantry and cooperated handicraftsmen
3. Peasants—individual farmers and noncooperated handicraftsmen
4. Bourgeoisie, merchants, landowners, and kulaks



Key:

- 1. Per 1,000 people
- 2. Number of people born
- 3. Natural growth
- 4. Number of people dead
- 5. Years

11439

CIVIL AVIATION

Reader Continues Discussion of Aircraft Maintenance Services

18290052a Moscow VOZDUSHNYY TRANSPORT in Russian 17 Nov 87ba p 3

[Article by Yu. Volchinskiy, senior flight engineer examiner, Flight Service Main Administration, Ministry of Civil Aviation, under the rubric "A Reader Continues the Discussion": " 'Self-Service' Is Harmful"]

[Text] An article by a group of engineers and aviation technicians at the Dnepropetrovsk Aviation Enterprise ATB [Aircraft Maintenance Base] entitled "We Support Radical Reorganization of the Work" was published in *Vozdushnyy Transport's* issue No 108 of 8 September 1987.

Writing about the aircraft maintenance system that has taken shape today, the authors state that it has not proven its value. In our view, the article correctly stressed the fact that an indicator of engineering service activity today such as "an adjusted unit" not only does not improve the quality of maintenance; on the contrary, it significantly worsens it and leads to inflated reporting and service "on paper." We expected that the article's authors, by trying to analyze the causes of the negative manifestations that had developed and supporting radical reorganization of the work, would advance logical and specific suggestions. But they draw a totally unexpected conclusion: "Transient aircraft should be maintained by technical personnel in the crew," probably referring to the flight engineer and flight mechanic. The authors did not neglect to suggest ways to implement this idea, either. "A few things" will be required: just provide additional training for crews, have technical instructions on board the aircraft for "the crew's technical personnel" to carry out, and have them check the quality of maintenance and be responsible for it.

The motives of the authors, who made such a suggestion as a panacea for all shortcomings, are clear. After all, solution of this problem will not require either manpower or facilities from the Aeronautical Engineering Service, just a resolute addition to directive documents. A very convenient way, which does not lead to a solution of their problems, but shifts them to others.

In other words, we are being offered nothing but "self-service": they get the aircraft ready themselves and fly it themselves, that is, they are "jacks of all trades."

And if workers in all the flight support services which now exist come forth with similar suggestions and also propose that their own problems be resolved by the crew? It looks as if the ones who suggest this do not have a clear conception of the flight activity of the so-called "crew technical personnel."

The flight engineer of today, unlike the ATB specialists in narrow fields (specialists in engines, airframes, electrical systems, avionics, and so forth) is a combination of all these specialists in one person, and his capabilities are not unlimited.

It has practically become the norm now when a crew is given an aircraft that has not been prepared but is only in good working condition, that is, an aircraft on which a number of final operations have not been performed to bring it from good working condition to readiness for a specific flight mission. Because of this, an unsound practice has taken root: using the flight engineer (flight mechanic) in preflight preparation as an all-purpose specialist to eliminate the bottlenecks in an aircraft's technical preparation for flight which have already become chronic. That is, where a controller, an OTK [quality control department] engineer, and simply an expeditor are needed. And it is these very operations which are not part of the flight engineer's direct functional responsibility which affect his strength, energy, and nerves; this leads to needless fatigue (not only physical, but psychological as well) and make him less fit for duty during the most important stage—in flight.

Aviation technicians often make their appearance before the passengers are boarded only to drain the sump, sign the job order, and see that the engines start, as the article's authors correctly note.

The specialized vehicle service may bring a fuel truck that is not in good working order onto the apron and approach the aircraft without following the rules and a technician may not drain the sump sediment, close the tank filler, take off the air inlet dust covers, look after mechanized facilities, or ensure that the aircraft's surfaces are clear of ice—the crew are the ones who will be flying, they are on the end, and they are responsible as well.

In our view, these problems must be resolved in another way, and in the first stage we must clarify the terms "maintenance" and "flight operations" in our documents. We must differentiate between the duties and responsibility of specialists who are charged with maintenance and those involved in flight operations, without confusing these concepts and identifying them with respect to aircraft preflight preparation.

8936

Restructuring: Examination of Aeroflot's Competitive Position

18290052b Moscow VOZDUSHNYY TRANSPORT in Russian 17 Nov 87 pp 3-4

[Article by R. Rstakyan, economist and international affairs specialist, under the "new" rubric "International Routes: The Problems of Restructuring": "How to Increase Competitiveness"; first five paragraphs are editorial introduction]

[Text] The processes of restructuring and the shift to the new conditions of economic operation in the sector have aroused the enthusiasm of workers in Aeroflot's enterprises and subunits, and have attracted interesting new suggestions.

Even the most ideal mechanism needs constant refinement, and international routes are by no means an exception. This is also supported by this statistic: Aeroflot's share in the total volume of world international transport has fallen over the past 5-year period from 2.5 to 1.8 percent, and this is a reliable sign that all is not well in the sector's vanguard. And we have decided, at last, to look into those problems which now face our airline, which is operating in the international arena under conditions of a critical competitive struggle.

Today you will become familiar with the suggestions made by R. Rstakyan, an economist and international affairs expert. Without question, not all aspects of what he has written are indisputable, and not all the assessments are unequivocal, but one thing is clear: Aeroflot's competitiveness must be increased.

We invite readers who are familiar with the problem and have experience in this field to take part in the discussion of ways to improve international transport service. Materials will be published under the new rubric "International Routes: The Problems of Restructuring."

We await your letters.

I was prompted to take up the pen and share some of my views related to the restructuring of Aeroflot's activity on international routes by the interview given to *Izvestiya* by Minister of Civil Aviation A. N. Volkov.

The minister called on workers in the sector not to be indifferent, and urged each one to look for and suggest new ways of restructuring in his own area. Aeroflot's international air service problems were raised in the same interview. I would like to make this reservation right away: my suggestions are not intended to be peremptory in nature by any means; they are being advanced only for the purpose of discussion to work out the best and most acceptable ways of restructuring on Aeroflot's international routes.

Aeroflot is going through a difficult period in its long history today, when its position in the international market is being undermined by the age of the aircraft being flown and inadequate service on board and on the ground. No matter how annoying it is to admit this, we have to face the truth.

It is paradoxical that the largest airline in the world, which has the most skilled and highly trained personnel, maintains a high level of flight safety and regularity, can take passengers to 125 of the world's largest cities, and has the best system for training aviation specialists which has received worldwide recognition, does not

enjoy the corresponding popularity among foreign air travelers all the same. And you are automatically asked: "Why? What is our weak spot?" But the answer is extremely simple: being accustomed to the modest tastes of the Soviet passenger, Aeroflot flight attendants and airport employees still do not fully realize that the laws of competition, which set completely different requirements, operate in the international arena, where success is impossible unless the quality of work is raised to specific world standards. Moreover, they overlook the fact that for many foreigners, an encounter with an Aeroflot stewardess on board or arrival in the transient room of Sheremetyevo-2 may turn out to be their first and last impression of the Soviet Union. Unfortunately, we are doing far from everything to ensure that this benefits us.

Just as poor actors can ruin the best play, so our services field, which is suffering from shortcomings everywhere, nullifies Aeroflot's tremendous advantages and overshadows its most important attributes, such as flight safety, aircraft reliability, and the strictest system of quality control for maintenance and personnel skill.

Service is one of the elements of transport production, but it is the one that is the most visible and important, since the customer's assessment of a given airline and, what is of no small importance, his attitude, depend on it. It is for this very reason that foreign carriers devote special attention to this area by displaying a great deal of imagination and resourcefulness.

Just what can we add to Aeroflot's often "unimposing" service? First of all, what aircraft are we flying abroad? Aeroflot is using the Tu-154, which is limited by its maximum payload and average level of comfort and is unsuited for long nonstop flights. The Il-62 proved itself well on transcontinental routes, but it is less economical and its service life is coming to an end. The Il-86, which enjoys favor with foreign passengers, has well-known limitations, unfortunately, and is not being used widely enough by Aeroflot on international routes. It is difficult to go out into the world air transport market, and especially to count on success, with such a commodity.

In the meantime, the work routine of the Aeroflot representative abroad forces him to take into account competitors' advantages and the cost of intensive efforts to resolve the problem of attracting loads for his flights in an unequal struggle with Western airlines. Even passengers from African countries often refuse a long, fatiguing flight on the Tu-154 with four or five landings, preferring to fly to Europe through Moscow on wide-bodied aircraft of their own airlines or those of Western airlines, which make nonstop flights over the same routes or flights with one stop of considerably less duration.

At the same time, it would be unfair to deny that there is a contingent of regular Aeroflot customers who sympathize with the Soviet Union and pay tribute to the

reliability of our aircraft and the skill of Aeroflot pilots. But this is obviously insufficient for active operation in the international air transportation market.

According to ICAO [International Civil Aviation Organization] statistics, Aeroflot's indicators, taking domestic transport services into account, put it in second place after the United States, but the indicators for international air service move it back to eighth or ninth place in the world, and 11th place in certain years, after such carriers as Singapore Airlines, Air India, and others.

The program for accelerating and restructuring the economy of the USSR outlined by the 27th CPSU Congress requires a new approach and a search for new methods in each sector. And this task will have to be carried out with a definite increase in imports, for which foreign exchange is necessary. In light of the tasks set by the congress, development of sectors which provides for an increase in foreign exchange receipts is being advanced to the forefront. More active sales of air transport services to foreigners and a fundamental reorientation of Aeroflot's commercial policy on international air routes can become one of the workable and promising ways to resolve this problem. Indeed, it is more profitable for the Soviet Union to sell air tickets from Montreal, Delhi or Nairobi to Moscow than to sell lumber, oil, caviar, or even tractors and motor vehicles for an equivalent sum.

Today a commodity of the transportation industry—more specifically, air transport service—is a commodity which is highly profitable for export and one which pays well. They have realized this for a long time in the West. It is precisely for this reason that international air routes have become one of the largest sources of foreign exchange revenue for a number of small countries such as Switzerland, Belgium, the Netherlands, Singapore, Portugal, and other countries. Domestic air service is practically nonexistent in these countries, but they invest capital in development of their airlines, and their scope is not commensurate with the actual requirements of these countries for international services. Their objective is not to meet domestic demand, but to develop an airline business, to attract foreigners, and to sell them their commodity—air service. Many countries have developed a large aviation industry for the sake of this objective, basically oriented toward the foreign market and exclusively for foreign exchange income. At the same time, they have been so successful in this business that they have earned a worldwide reputation. SAS, Swissair, KLM, and other airlines of small countries are among the most prestigious today.

In their attempts to surpass competitors, they strive to sell a commodity of higher quality and continuously improve service, increase the number of personnel, update the fleet of aircraft with advanced types, expand and improve the complex of related ground services, and build their own air terminals, hotels, and so forth for this

purpose. And in spite of the fact that capital investments in this sector are subject to seasonal fluctuations and dependence on market conditions, they fully prove their value with profit.

The time for Aeroflot to occupy its rightful place befitting the world's largest airline on international air routes, without "profiting" from its domestic indicators, is long overdue. It is high time that we are not limited by flights to and from Moscow and that we expand the network of flights among third countries, obtain orders from the largest tourist firms for special flights and tour organization, take part in combined tours involving sea and air transportation, begin to seriously study the world cargo market, and conclude large-scale transactions with reliable industrial firms.

But all this is for tomorrow; Aeroflot's commodity of today is almost uncompetitive. It does not become Aeroflot to be an average airline. Restructuring on Aeroflot's international routes is a task of great economic and political importance. But it would not be correct to blame Aeroflot alone, for far from everything depends on it. The majority of those in Aeroflot are real professionals who love their work and perform it conscientiously, providing the country with appreciable foreign exchange revenue. Nevertheless, so many problems have accumulated in Aeroflot that it is now impossible to continue working with the former management structure and the existing level of service.

I want to respond immediately to those pessimists who say that Aeroflot service can never keep up with that provided by the French, the Swiss, the Scandinavians, or the Japanese. Yes, never, if one is only talking about this and doing nothing. However, any work is possible if one wants very much to do it and devotes the required effort to it. Here is an appropriate example, it seems to me: there is no more attractive spectacle than the Russian ballet in the world today. No one asks the cost of a ticket to a performance by the Bolshoy Theater on tour abroad; they ask only how to get there, and if they miss it, they even fly to Moscow especially for this. Why? Because it is first-rate and brilliant. And our Soviet people do this, only they have everything efficiently planned and excellently organized. And work, persistence, and carefully preserved traditions, passed down from generation to generation, form the basis for this. This is the answer to our pessimists. Aeroflot must find its own new face in the world air transport market.

What is the specific meaning of the restructuring proposed and how do I envision it?

Perhaps it makes sense to change the International Air Services Central Administration (TsUMVS) to an All-Union air transport foreign trade association, oriented exclusively toward the export of transport services and

the sale of international flights. I mean the sale of air service with Soviet aircraft chiefly for foreigners in the world market for the purpose of attracting foreign exchange income.

Many will ask just what is new here? After all, Aeroflot is selling air service on the international market today as well. True, it is selling it, but significantly less than other airlines. Flights by Soviet diplomats and specialists, which are paid for by the Soviet State, make up a significant proportion of our international air services. This is an important and honored task for Aeroflot. But the point is to significantly increase the overall number of Aeroflot flights and to be oriented in planning not only toward the requirements of Soviet organizations, but the market capabilities of each country, and to gradually increase the number of foreign passengers and change the proportion in favor of the latter.

This can be achieved by increasing the frequency of flights, expanding the network of air routes and services between points en route, introducing intercontinental circumferential routes, and so forth. Increasing the frequency of flights alone will not yield anything; the passenger will not take Aeroflot flights on such routes. For this we must work a great deal and fundamentally change our service, reverse the conception of Aeroflot which exists, and develop "spirit" in service with a predominance of national color which will make our flights attractive for the most discriminating clientele.

In speaking of restructuring and changes, we have to begin with the practical, visible changes, mainly on the exterior, which strike the eye right away. And so that the world is aware of this change and forms a new approach in evaluating the Soviet airline, we must change everything—aircraft, their exterior appearance, the painting of the fuselage, the design and style of the cabins, and most importantly, the service; the service must be raised to an incomparably high level, surpassing the competitors in its originality and distinctiveness—and not inferior to them in quality.

We will not reach the goal that has been set without this. Funds will be spent, but we will not succeed in changing the traditional attitude toward Aeroflot. For this reason, perhaps, it is worthwhile to think about changing the name of our international airline, retaining it within Aeroflot with the same emblem, but giving it a new face on the world market. As an example, "Soviet International Airlines" [in English] ("Sovetskiye mezhdunarodnyye avialinii")—"SOVINTER."

A few words about its structure. The All-Union Foreign Trade Air Transport Association "SOVINTER," subordinate to the Ministry of Civil Aviation with the right to establish contacts independently with foreign organizations, may include three major administrations: the International Cooperation Administration, the Commercial Administration, and the Operations Administration. The International Cooperation Administration will

arrange access to the foreign market, talks with foreign organizations and firms, provide for analysis and review of existing agreements and transactions and conclusion of new ones, resolve problems in developing routes and expanding the air service network, and work out "SOVINTER" policy in the world market and manage the activity of its foreign offices. The Commercial Administration will have the functions of carrying out existing agreements, planning and monitoring their implementation and foreign exchange and financial activity, resolving commercial problems and developing a tariff policy, day-to-day coordination and filling of orders, charter programs, and so forth.

The Operations Administration will support commercial operations on international air routes by uniting flight detachments, flight attendant services, passenger flight organization, the cargo complex, the Aeronautical Engineering Service, and Sheremetyevo Airport.

Taking into account the new approach and the restructuring and expansion of Aeroflot's activity on international air routes, the following seems appropriate: 1) increasing the frequency of flights and adding routes and conditions for collaboration; 2) acquiring commercial rights between the new points and the rights to sell air service freely where the local conditions and political situation permit; 3) an important and promising direction for the new airline, along with a significant increase in its scheduled flights, should be to develop seasonal charter programs, that is, to organize passenger and cargo flights to order for the widest variety of customers, specifically assigned with stipulated conditions for the service and established dates; 4) the tourism industry on a national, regional, and worldwide scale which is being poorly utilized by Aeroflot today should become one of the principal partners in "SOVINTER"; 5) closer cooperation with "Inturist" should become an important direction for restructuring, for the purpose of developing tourism in the USSR with a search for new forms and combined programs; 6) since considerable opportunities are concealed in the development of combined trips for tourist groups in coordination with the Ministry of the Maritime Fleet, "SOVINTER" may take large groups from any country to the Caribbean, the coast of South America or Oceania, as an example, where they can take cruises lasting a number of months on ships of the Ministry of the Maritime Fleet; and 7) the development and intensification of cargo service is one of the important directions of restructuring on international air routes. This area of activity is not sufficiently developed today, and the opportunities for it are not fully utilized in Aeroflot. The development of cargo services will contribute to acceleration of restructuring in industry and other sectors, to fulfillment of the Food and Energy Programs, to vitalization of foreign trade, and most importantly, it will become an additional source for significant foreign exchange revenue; 8) another direction not widely utilized by Aeroflot may be considered the leasing of Soviet passenger and cargo aircraft both

with and without crews. Study of the market in developing countries will make it possible to bring much more activity into this field of collaboration, both on a regular and an occasional basis; and 9) the organization of special flights by aircraft with "deluxe" cabins especially equipped for well-to-do clients may become a profitable new form of activity.

All the directions for restructuring that have been listed provide for a significant increase in the volume of international service by the Soviet airline, although the increase in the number of flights and the capacities of aircraft will make sense only when loads are provided for these flights, and this depends ultimately on the quality of service.

This means a significant increase in the fleet of "SOVINTER" aircraft, updating it with new-generation aircraft, and using national color to decorate the cabins' interiors.

In-flight meals must be made one of the attractive features of "SOVINTER" service. Persons will go on these flights for their exotic character, as they go to Russian restaurants in Paris and Montreal, to Russian cathedrals, and to concerts of Russian folk music.

All new aircraft have to be equipped with movie and video units to show films and with stereo systems to provide music programs on several channels.

Certainly fundamental restructuring of the service should include the training of flight attendants, a change in crews' uniforms, new in-flight eating utensils, and improvement in ground services for passengers and the ways and means of advertising.

All these suggestions will contribute at the same time to achievement of the economic objective as well as the most important political objective—strengthening friendship and mutual understanding among peoples and disseminating the truth about the USSR and the lives and attitudes of the Soviet people.

The concept of "transit through Moscow" should acquire a totally different meaning for the sake of this objective. Today Aeroflot tries to "push" the transient passenger out of Moscow a little faster, but on the other hand, he should be invited to stay on, and attracted to "SOVINTER" flights occasionally especially to become acquainted with Moscow after seeing an appropriate tourism program beforehand.

Experience has shown that many foreigners who are not familiar with the USSR willingly change their traditional routes and prefer a stopover in Moscow, both to become acquainted and to "discover" Russia, and after such a trial visit they often become "Inturist" clients. Along with cooperation with "Inturist," the time has come for

the Soviet international airline to develop its tourism industry—first-class hotels, programs, tours within the country, a fleet of motor vehicles, and personal translator-guides.

Concentrating the management of this entire economic operation in the same hands will make it possible to increase efficiency in its use and will produce significant foreign exchange revenue. Thus, each foreign representative will be able to wire the transit and tourism service of "SOVINTER" in advance and, by reserving a flight from Moscow, order the tour selected by a passenger when an additional payment, a specific percentage of the tariff, is made.

Restructuring on Aeroflot's international routes is an important and lengthy undertaking which requires substantial efforts and expenditures, the breaking of long-standing traditions and even changing the psychology of individual officials. This is a difficult but necessary process, the outcome and success of which depend to a significant degree on the human factor. This process should be completed by the time that the new generation of aircraft appears on international routes, but we must begin the work in this direction—"to gain altitude"—today.

8936

Conference on Branch's Readiness for New Economic Conditions

18290012a Moscow VOZDUSHNYY TRANSPORT in Russian 13 Oct 87 p 3

[Article by N. Inin, Minsk: "Reasons for Alarm"]

[Text] A conference whose participants discussed the question of the sector's readiness for transition to the new economic conditions has been held in Minsk using the facilities of the Belorussian Civil Aviation Administration. It is no accident that Minsk was chosen as the place for holding the meeting of specialists. The Belorussian administration is one of the first in the sector to have made the transition to the new economic conditions.

I had occasion to talk not only with optimists about the "transition," but also with skeptics. No one, of course, even thinks of disputing the advantages of economic methods of managing production. But in many people's minds it is very hard to believe that economic levers for conducting economic activity will displace administrative methods without a trace in the sphere of relations of civil aviation. They knew, and it is on that basis that they were speaking, that the willful and rigid style of management has deep roots in the sector. Incidentally, this is being particularly felt this year by the collectives of administrations which are the first in the sector to be mastering the new economic conditions. Why? Well, because these collectives are working under the new conditions, while the attitude toward them on the part of

administrations in the sector's headquarters has remained the same as before. It is not a question of creating hothouse conditions, as some of the participants in the conference remarked with irony, but of maintaining the legal status called for by the Law on the Enterprise in relations with independent enterprises. For instance, the stability of the 5-year plan, standard rates, and investment limits was violated by the MGA [Ministry of Civil Aviation] in its relation with the Belorussian administration. There were breakdowns in deliveries of equipment and replacement parts in relations with the Lithuanian administration. These and a number of other reasons have disrupted the smooth pace of production and resulted in unwarranted losses. And it was the collectives themselves that had to pay for it. To an outsider these relations recall a conversation in which people are speaking different languages. This kind of thing is not allowed in the new economic conditions. But these are the problems we will be discussing....

It was not at all by accident that the specialists of the sector chose the Belorussian administration as the location of their meeting. The participants in the conference were given a practical opportunity here to pick up kernels of experience, to study mistakes, to learn as much as possible. The interest in the experiment is evidenced by this fact. The Minsk United Aviation Detachment alone has since last spring been visited by more than 40 delegations from other aviation enterprises and administrations.

"On the one hand this interest is natural and praiseworthy," I was told by P. Khokhlov, chief of staff of the Minsk Aviation Enterprise. "But on the other the visitors have quite often come for nothing; after all, we have only begun to master the economic methods of managing production. There would be less unnecessary shuffling around if the kernels of experience of the 'frontrunners' were properly summarized in the ministry and sent out to enterprises...."

More than 9 months have passed since operation under the new conditions began. What have they brought to the Belorussian aviation workers? What have they learned? These questions were asked repeatedly in the meetings and in the pauses.

"We have learned independence, every worker has a keener sense of personal responsibility," V. Borisevich, chief of the department for the organization of work and wages of the Belorussian administration, said in answer to the questions. "And they have brought us a multitude of things we didn't expect and anxieties of all kinds."

The results of the highly complex and strenuous effort have been the main thing for them. First, the administration made the transition to a two-tier structure, which guarantees unity of production and functional tasks and is aimed at the end results of work. In the course of

perestroyka three complexes have been shaped: the airport complex, the economic complex, and the administrative complex with dual subordination. This means that any particular subdivision is at one and the same time part of the structure of an aviation enterprise and also of the regional administration. Every complex is headed at the regional level by a deputy administration chief. For the first time current and 5-year plans are adopted for the production complex.

The very first experience demonstrated the flexibility and viability of the new structure. Elimination of unnecessary management levels made it possible to create a reserve wage fund for introduction of the new conditions of remuneration. In the ATB [Aviation Equipment Facility], for instance, they eliminated the positions of shop and section chief. In the enterprise as a whole they eliminated 197 job slots. An invariable feature of the preparatory period was collective discussion of all the acute issues, and this minimized conflict situations. The effort was carried out with the broad glasnost.

The Belorussian administration not only mastered the new conditions for the conduct of economic activity, but also the new conditions for remuneration. In the administration as a whole 10.1 percent of the job positions were eliminated. In the administration's staff headquarters approximately 30 positions were eliminated. This process affected the ground services more than flight subdivisions and the staff services of air traffic control. I recall that on the eve of the transition to the new conditions for remuneration the rumor went around in certain subdivisions that the cutback would mainly affect worker specialties. This resulted in unjustified reproaches and complains and irritated people. Then the specialists and party and trade union activists were sent out into the collectives. Assemblies, meetings, and talks were held in which the situation was explained and positions were clarified. As a matter of fact the reduction was barely 8 percent for worker categories, 11.6 percent for supervisory personnel, and the same figure for employees.

"Even now," A. Zaikin, commander of the Minsk Aviation Enterprise, told the participants in the conference, "the level of wages of our aviation personnel has risen from 15 to 40 rubles, and labor productivity has risen more than 8 percent...."

Wages have risen in the other aviation enterprises of the Belorussian administration in approximately the same proportions. According to the preliminary calculations of specialists, labor productivity in the administration as a whole will increase over 19 percent and average wages 16.4 percent this year and next year.

"The additional sources for increasing wages are known, for example, in the ground services," many commanders spoke up from the audience. "But where are they to

come from in the flight subdivisions or in the UVD [air traffic control] service? The fixed capital in physical form means the airplanes.... And you are not cutting back flight personnel...."

"The collectives themselves suggested the solution to us. The decision was made jointly with the other services to cover the amount that was lacking by using the relative saving on the wage fund formed by the entire aviation enterprise in the preparatory period."

In the transition to economic methods of management of production principal emphasis was put on large-scale organizational and technical solutions and on raising the technical level of production. Practically all the airports underwent reconstruction or were built from scratch in the republic, technical facilities for landing were improved, and the ASU was put to active use in production. The emphasis in commercial operations was put on more economical and productive plains, and round-the-clock sale of plane tickets was organized at the airports of the city of Minsk.

Here is an example of an exploration. The Mogilev Airport uses Yak-40 airplanes. The wasteful "appetites" of this airplane are well-known. Everyone was disturbed by a single question: How to build up a fund of conserved resources guaranteeing transition of the aviation enterprises to the new economic conditions? By that time they had already eliminated about 14 percent of the staff positions, but the problem remained. Then the decision was made to use the more economical An-24 airplanes by the method of cooperation. They invited pilots in from other administrations while their crews were retraining. And now runway reconstruction is fully under way at this airport; that will make it possible this very next summer to receive Tu-134 airplanes here. These decisions were taken jointly with the collective.

There have been quite a few examples in the sector that deserve attention. The participants in the conference listened with undivided attention to V. Gusev, commander of the Lvov Aviation Enterprise, who told about organizing construction of housing by the efforts of aviation personnel themselves. In 2 years they erected two multistory apartment buildings. In close contact with local party and Soviet organizations the Grodno aviators built a new airport and housing for their own personnel, as K. Lobach, commander of the Grodno Aviation Enterprise, reported to his colleagues.

The audience paid close attention to what these commanders said, but their words, it seemed to me, evoked sad reflections in many people. And I was not wrong in my supposition.

"We are being called upon to solve social problems more vigorously," said representatives of the Volga administration, "and at the same time all the funds for construction by the direct labor method have been taken away from the administration...."

"Our administration is one of the participants in the experiment," explained personnel from the Lithuanian administration, "but the MGA Administration for Capital Construction prohibited us from building a 60-unit apartment building by the direct labor method. Are these not the administrative 'levers,' which are being applied in the old way under the new economic conditions?"

The anxiety of the enterprise managers is well-founded. As is well-known, 20 percent of the aviation personnel in the sector need better housing conditions. This is problem number one for all of them. And beginning with the new year this is to be dealt with locally. But so far for many of them there has remained the open question—with what financing?

Various proposals cropped up during the debate. One of them, which was supported by the commanders, I will cite in its entirety. For example, if there is a shortage in the fund for social welfare development, it would be wise to assign to these purposes first a portion of the resources of the fund for development of production, science, and technology. This could be a temporary measure.

And then in subsequent years, as profitability increases, the construction problem could be solved through an increase in economic incentive funds....

I recall that in one of the pauses between meetings commanders of aviation enterprises gathered together around a representative of the VGPO "Aviaremont" and excitedly ticked off on their fingers the troubles in their relations with repair plants. One vicious practice, for example, is for baseless engines to roam for years from one aviation repair plant to another. Depreciation is deducted on them in aviation enterprises, but for some reason they do not get them back. Cases are not uncommon in which light aircraft come back from repairs without actually having been fixed....

Those I talked to cited an example like this. In the last 2 decades the labor intensiveness in servicing the An-2 aircraft has doubled! But the specialists of the relevant administrations of the ministry stubbornly refuse to take note of this. In the opinion of the operators, labor intensiveness has been stretched out, largely without foundation, on new models of airplanes as well.

The problems of material and technical supply under the new economic conditions have for all practical purposes still remained unresolved. For some reason, GUZSANT has not been performing the task of converting supply to a contract basis. As a result, the production people at the local level have quite often come to think that in certain cases the MGA specialists behave as though they are "sitting" on a shortage. Consequently, distribution of the "commodity" also deviates from plans and standard allowances.

Many things have remained unclear to the commanders and managers of losing enterprises in connection with the transition to self-support and full cost accounting. For instance, for such aviation enterprises won't the economic mechanism of conducting economic activity become a kind of mirage? After all, they will still be receiving binding planning targets "from above." Nor was everything cleared up in future relations between the ministry and associations.

These are only some of the typical things from what was discussed at the conference and what is disturbing work collectives today. It is from such strokes that the general picture of perestroika in the sector is composed today.

07045

Response to Belogorodskiy's Article on Improving Maintenance

18290012b Moscow VOZDUSHNYY TRANSPORT in Russian 13 Oct 87 p 3

[Article by G. Anikayev, chief engineer of TsUMVS; E. Dorokhov, deputy chief of the VNPP TsUMVS; and V. Slobodnik, department chief of the VNPP TsUMVS: "Appreciation of the Experience That Has Been Gained"; first paragraph is VOZDUSHNYY TRANSPORT introduction]

[Text] The articles by S. Belogorodskiy, department chief of NETs of AUVD, doctor of engineering sciences, and professor, entitled "Level of Readiness" (VOZDUSHNYY TRANSPORT, Nos 87, 88, and 90, 1987), devoted to the problems of improving the system of technical operation of the new generation of aircraft so as to guarantee a radical improvement of indicators of flight safety and regularity and economic efficiency of their operation, aroused readers' interest. We are offering for your consideration one of the responses to S. Belogorodskiy's articles, and we invite to take part in the discussion all those who would like to share their opinions on the future of civil aviation. What ways do you see of reducing the labor intensiveness and time requirement of scheduled and unscheduled servicing aside from those proposed in the articles carried under the title "Level of Readiness"? What should be the principal directions for reducing the number of late flights caused by technical reasons? Has an acute need arisen for radical restructuring of the organization maintenance and repair of airplanes and helicopters? Do you agree with the proposal that maintenance of a particular type of aircraft should be managed from a single center?

The worldwide experience of civil aviation indicates that annual flying time of 3,500-4,000 hours for aircraft on the roster has become the standard in all the advanced countries. In the final analysis the efforts of those who manufacture and operate airplanes are aimed at their flying not only reliably, but also intensively. What kind

of flight time can we guarantee airplanes of the new generation, in particular the Il-96-300, assuming the present system of maintenance?

To answer that question we analyzed utilization of the Il-86 airplane from the beginning of its operation. Our point of departure was that it was the closest to the Il-96-300 in its complexity and the labor intensiveness of maintenance. After 6 years of operation in TsUMVS [Central Administration of International Air Service], flight time per Il-86 airplane on the roster, taking use of an airplane on a trip as the criterion, is 30 percent of calendar time. And about 50 percent, that is, half the year (or put differently: half of the fleet of aircraft), consists of maintenance and idle time because of the lack of spare parts and engines. The analysis we conducted showed that to guarantee for the Il-96-300 the necessary number of flight hours per year per airplane on the roster assuming the scheduling now in effect for the Il-62M (which it is being built to replace) repair time, idle time because of the lack of engines and spare parts, refinements of design, regular servicing and Form B would take up at least 20 percent of calendar time. This time is now 40 percent for the Il-86 airplane. At least 4 percent of the time must go for day-to-day servicing. On the Il-86 this time was 9 percent. Thus the time referred to when the airplane is in proper condition, but not used, must be reduced from 16 percent to 6 percent.

How can this be achieved? Above all by reducing the labor intensiveness of scheduled and day-to-day maintenance to at least half of what it was on the Il-86 airplane. There should be no repairs of the airplane in the sense in which the term is now used. Replacement operations must be performed in stages, in the shortest time, and in those seasons when flight intensity is at a minimum.

As shown by experience in operating the Il-86 airplanes, the main problem in maintenance is operational correction of failures within a given time and with minimum labor intensiveness. This problem is precisely the concern of the temporary scientific-production subdivision "Poisk," which has been created within the TsUMVS and which is developing and introducing in the course of development a progressive technological system for operational repair of failures of aviation equipment for the airplanes Il-62, Il-86, Tu-154, and Il-76.

Beginning these operations in 1984, we studied the developments and know-how of progressive foreign airlines and leading airplane repair firms. It turned out that foreign airplane manufacturing firms pay considerably more attention to problems of maintenance than our domestic firms do. And much of what we have done in the system "Poisk" through the efforts of maintenance people is dealt with abroad by the firms in the stage of designing the airplane in close collaboration with representatives of the airlines. We were naturally very interested in the system of monitoring, gathering, and processing information on the technical condition of the

Il-96 and Tu-204 airplanes, since this system has decisive importance to guaranteeing effective operation of these airplanes. We studied their capabilities in considerable detail, repeatedly discussed the virtues and shortcomings of these systems with specialists from industry.

Our impressions of the effectiveness of these systems, by contrast with the author of the article "Level of Readiness," are not so optimistic. The reason is that the author of the article looks only at the flying control and navigation and radio equipment of the Il-96 and Tu-204 airplanes. In that respect the situation is exactly as stated in the article. Let it be said, full credit must definitely be paid to the specialists of the NETs AUVD, who set very sound and detailed requirements as to the operational maintainability of that equipment. But with other things, for example, the raising and lowering of the landing gear, the air conditioning, the hydraulic system, and so on (representing a majority of the systems)—and both engineers of the experimental design office and institutes of industry have to agree with this—the situation is no better than on the airplanes which are now in operation in civil aviation.

The principal source of information on the technical condition of airplane systems for the Il-96 and Tu-204 airplanes is the automatic system of built-in monitoring. In those of its functional systems in which the built-in monitoring system is well-developed, covers all the basic parameters, can identify the unit in which the failure has occurred, and, equally important, can transmit that information to technical personnel immediately after the aircraft lands, the situation meets the altogether sanguine hopes. To be specific, they include the flying controls and navigation equipment which are discussed in the articles entitled "Level of Readiness." Unfortunately, almost all the mechanical, hydraulic, and pneumatic units have been insufficiently provided with a system for obtaining data on deviations in operation, for processing this information on board, and for transmitting it to the ground. As a result, the situation on the Tu-204 and Il-96 with respect to evaluation of their technical condition and the promptness of correcting failures and maladjustments may be even worse than on the airplanes now in operation.

It seems to us that the present organization of servicing airplanes in TsUMVS comes closest to a model for utilization of the Tu-204 and Il-96 airplanes.

Airplanes fly from the home airport Sheremetyevo to 100 airports in the world where a minimum number of technical personnel are maintained (one or two persons as a rule), and there is a very limited list of the most necessary replacement parts. All the airports are transit airports with respect to the home airport, and operations are done there within the limits of commercial servicing time.

In other words, even now maintenance in a large number of foreign airports is being managed from a single center, and it is obvious that it would not be any more complicated to solve a problem of this kind on lines operating within the country. The benefits from this centralization of management are indisputable.

The strictest time limit imposed on the aviation engineering service of civil aviation requires that altogether definite problems be solved by industry. One of them is designing into the airplane reliable equipment to provide information as a support to maintenance. We felt with particular acuteness how necessary this is when we set up an engineering center whose purpose was to monitor flights from the engineering standpoint. It was the absence of complete and prompt information on failures that in most cases was the reason for unjustified trip delays.

Urgent measures are needed to unify the efforts of industry and operations to bring operational maintainability up to the level of the best foreign examples and to prepare operational subdivisions for receiving the new airplanes. The organizational form of this cooperation given the tight time limit before the Il-96 and Tu-204 begin flights might be creation of a temporary collective consisting of specialists of industry and the MGA. Specialists of the VNPP "Poisk" of the TsUMVS are ready to take part in that effort.

07045

Discussion of Training, Qualifications of Flight Engineers

18290012c Moscow VOZDUSHNYY TRANSPORT in Russian 15 Oct 87 p 1

[Article by V. Skripnik, pilot-inspector of the Far East administration, candidate of engineering sciences, Khabarovsk: "The Threshold of Capabilities"]

[Text] Many publications, newspapers, and items in *Vestnik Ekipazha* have been straightforwardly posing problematical issues. Where are the bottlenecks in management of flight service? In what direction should scientific research be aimed? It is very important to make choices in this area. But the time seems to have come to provide answers to the questions that have been posed and to solve the acute problems. For science, for practitioners in flight service, and for the appropriate bodies of the ministry. We would like to share in this connection some experience in studying the operator potential of pilots and flight engineers that has been gained in the Far East administration.

First let us see how a pilot ends up flying. From boyhood dreams, the romanticism of a young boy taking courses, and then the mature love for the vocation he has chosen—that is the road that brings most pilots into the skies. There are times when somewhere along this road they encounter permissiveness on the part of instructors,

subjective attitudes on the part of commanders, and protectionism on the part of responsible officials. Still the screening is very refined, it is almost impossible for a professionally poor pilot to get through it.

The flight engineer travels a far simpler and shorter road than the pilot in joining the crew of a large aircraft. The regulatory documents afford the possibility of an engineer from the "ground" taking a place in the cockpit of an Il-62 or Tu-154 without the slightest flight experience. We will not for the moment judge whether that is good or bad. We will look only at the traditional approach to this problem that has taken shape in the branch.

We note that the motivation for flight service is considerably weaker in the flight engineer than in the pilot. The typical criterion in the transfer from "the ground" to flight service is this: the flight engineer must be a technically competent specialist. Traditionally this has been more important than anything else. Especially since the operator potential of the flight engineer has not been subject to any quantitative criteria for evaluation and for all practical purposes has not been subjected to operational, much less long-term, analysis.

The pilot often works under conditions of emotional stress (making the same landing approach in bad weather). But the flight engineer? How does he behave in this or that situation? How is he to be checked? After all, you will not create extreme flight conditions for this purpose. There remains training in the simulator.

For 2 years now in the Far East administration we have been studying the operator potential of the flight engineer during training in the simulator. Quantitative criteria of the quality of meeting unforeseen situations have been calculated on the basis of infallibility (standard procedures) and reaction (speed in detecting and correcting the failure). Levels of departures from the standards have been introduced.

In every training program flight engineers are graded on 10 exercises consisting of failures of the aircraft's life support system. Here the correctness of the action taken is the determining factor. But if the reaction is delayed considerably (in the emergency), this flight engineer may also be placed in the group whose professional level is not high enough.

An analysis of the statistical data has made it possible to divide the collective into four groups. In the first group are specialists who did not depart from standard procedure and who did not commit serious deviations in speed. This group comprised 16 percent of the collective. The second and third groups consisted of flight engineers who also acted correctly, but with varying deviations in the speed of detecting and correcting the failures. These groups represented 23 and 14 percent of the collective,

respectively. The fourth group consisted of flight engineers who both committed mistakes and also reacted slowly. Here is the most unpleasant part: this group consisted of 47 percent of the collective.

What is the reason for this situation? At this point we have to frankly state that simulator training in the branch is outside the zone covered by those who manage flight service. The simulator equipment and the method of designing the flow of monitoring information are imperfect. Simulator training is not monitored. Computer equipment is not used. There have been no quantitative criteria of the quality of meeting unforeseen situations either by individual specialists or by the crew.

We have solved a sizable portion of these problems. Now a resourceful group of our administration is working out a method for simulator training of crews. It includes the procedure of crew members and the crew as a whole in meeting unforeseen situations. Exercises are being worked out for evaluating every specialist who is part of the crew. A procedure is being defined to take advantage of the technical capabilities of the simulator in designing the simulation of failures. Quantitative criteria have been defined for evaluating the quality with which every specialist meets nonroutine situations.

This method is being completed by development of the structure, format, content, and speed of the flow of monitoring information on simulator training of crews using MSRP and computers.

As a matter of fact, even now the outlines can clearly be seen of a conception for making up crews on the basis of integral evaluation of each member of the crew from the data of simulator training. This is aided by the fact that in our administration efforts are being made to calculate the operator potential not only of the flight engineer, but also of the captain of the aircraft. Moreover, for the captains evaluation is at present based on two exercises: failure of the attitude indicator and failure of the manometric instruments.

On the basis of the results of research done over 2 years airplane captains have also been classified in four groups with respect to the criteria of infallibility and speed.

Here the average statistical time for correcting the failure in the fourth group is 9 seconds worse in the first exercise than the statistical average for the entire collective, the difference for the second exercise is 7 seconds, and the differences between the fourth and first groups are 14 and 10 seconds, respectively. I think there is no need to spell out what a 10-second delay means in an emergency situation. Moreover, pilots turned up in the fourth group whose average statistical time for correcting the failure was 6 seconds worse than the average time for their own group in the first exercise and 11-14 seconds for the second.

It is easy to imagine that the combination of a pilot in the fourth group and a flight engineer in that same group is not only undesirable in the same crew, but indeed even extremely dangerous. Of course, we need to note that because of the lack of MSRP on the simulator it is difficult at present to control simulator training of crews without losing reliable information in some cases. This problem is so urgent that we have an extreme need for the ministry's help in delivery of personal computers.

The processing of the data on simulator training has even now afforded the possibility of partially solving the problem of optimizing the makeup of crews, that is, preventing the captain of the plane and flight engineer in the fourth groups from being put in the same crew, especially when they represent the poorer representatives of those groups. But here there is a psychological nuance of the problem that arises: some people prefer to work with other people. Once again, of course, without a computer it is not possible to run over the immense number of variations. But in principle this is a soluble problem.

The figures on simulator training have made it possible for the command of flight personnel to look in a new way at flight specialists, to reassess its views, and to see the real dangers imposed by the human factor. Adoption of quantitative criteria for evaluating airplane captains and flight engineers has at the same time considerably improved the inviolability and speed of correcting failures as a whole throughout flight personnel. The poorest specialists have been going through more intensive simulator training. That is, the results obtained are even today working on behalf of flight safety.

Editor's note: The experience gained in the Far East administration undoubtedly deserves attention. But unfortunately this experience has still not spread widely in the branch. We would like to hear an opinion on this point from GosNII GA (chief A. Subbotin) and GlavULS (chief M. Tereshchenko).

07045

Ka-32 All-Weather Helicopter Completes Maintenance Test

18290043a Moscow PRAVDA in Russian 31 Oct 87 p 6

[Report by B. Pipiya under the rubric "We Provide the Details": "What Can the Helicopter Do?"]

[Text] Murmansk Oblast—Pilots from the Leningrad Administration of Civil Aviation have completed operational testing of the Ka-32, the new all-weather ice reconnaissance and transport helicopter developed by the Experimental Design Bureau imeni N. I. Kamov under the leadership of Chief Designer and Lenin Prize winner S. V. Mikheyev.

After completing the necessary documents for departure at the air traffic control center, we go out on the field at the Murmashi Airport. A white and orange helicopter is waiting for us here. Alongside are three containers in nets with a sixfold safety margin. The crew's mission is to fly the suspended load of over 3 tons to construction workers at Mys Chernyy.

"Murmansk, 31003 is in position, ready for takeoff."

"Cleared for takeoff," the controller's voice is heard in the earphones.

The helicopter lifts off slowly, carefully tightening the 5-meter cable. The load is held up safely and the aircraft climbs easily.

This is the first solo flight for pilot A. Kornilov in the new aircraft. But he is an aviation veteran; Anatoliy Viktorovich has accrued about 9,000 hours over the past 18 years in An-2 and Mi-2 aircraft. When the Ka-32's arrived, he was one of the first to volunteer for retraining. Navigator K. Sudakov and flight engineer Ye. Karmanov went through the retraining with him at the plant.

We are flying at an altitude of 600 meters at 160 to 170 kilometers per hour. The cabin, designed to carry 15 persons, is comfortable and warm.

The Ka-32 has two gas turbine engines designed by S. I. Izotov with combined takeoff power of 4,450 horsepower, which is twice that of the Mi-2, as an example. It can carry a suspended load of up to 5 tons. The Ka-32's performance not only ensures a high degree of flight safety, but high economic efficiency as well.

During the production tests, and they have been conducted since December last year, the two Ka-32's have brought the Murmansk Aviation Enterprise a profit of 800,000 rubles. They have been working on construction of power transmission lines, delivering commodities and equipment to floating drilling rigs, changing shifts, performing aerial mapping work and patrolling...

The Ka-32 will be manufactured in two versions: with the "T" designation (the transport version, in which I am reporting this) and with the "S" designation for the shipboard version. Several shipboard helicopters will be operating from vessels of the Murmansk Shipping Company as early as next year. With the Mi-2, ice reconnaissance is permitted within visibility range, that is, up to 10 miles. The equipment installed on the Ka-32S will make it possible to conduct maritime reconnaissance within a 300-kilometer radius and automatically, without pilot intervention, and approach for touchdown on an icebreaker that is under way.

And now the flight has been completed and we are returning to Murmansk.

8936

'Non-Profile' Production from Aviation Industry
18290043b Moscow IZVESTIYA in Russian 23 Nov 87
p 1

[Interview with A. Lukyanov, chief of the Civilian Product Marketing Main Administration of the Ministry of the Aviation Industry, by V. Popov: "Look for a Tractor in the Ministry of the Aviation Industry"; first paragraph is editorial introduction]

[Text] The first company store of the Ministry of the Aviation Industry, "Antey," has been opened in Ulyanovsk. Among the consumer goods displayed by the aircraft manufacturers are minitractors, motorized cultivators, and other agricultural implements.

"Many of our enterprises are now involved in turning out this generally 'non-profile' equipment, which is in considerable demand from the owners of private plots and vegetable gardens," A. Lukyanov, chief of the Civilian Product Marketing Main Administration of the Ministry of the Aviation Industry, reports.

[Question] How much does such equipment cost?

[Answer] The retail price for an MB-1 motorized unit [motoblok], let us say, is 580 rubles, and 280 rubles for a power cultivator.

[Question] A decree was recently approved establishing more favorable conditions for developing citizens' private subsidiary farms and gardens. The demand for small-scale mechanized implements obviously will increase, too. What are your ministry's plans?

[Answer] To expand production, first of all. Next year, for example, plants of the Ministry of the Aviation Industry will turn out 52,000 motorized units and 20,000 power cultivators. By the way, this is five or six times as many as are made at enterprises of the Ministry of Tractor and Agricultural Machine Building, which is considered the leader for this equipment.

Production of mounted implements—plows, mowers, and small trailers—is also being increased.

At the same time, the "prime movers" themselves are being improved. Our KB [design bureau] is also developing caterpillar-tracked minitractors. A modernized motorized unit, which will have a reduced speed—1.5 to 2 kilometers per hour—in addition to the two existing speeds, is being readied for production. This will make it possible to plow up potatoes when they are harvested. It is planned to equip the minitractor with a differential which will make it easier to handle in turns. And the machine is being equipped with an electric starter and a relief gear [dekompressor] for better starting.

The power cultivator is also being modernized. It will operate in reverse and a device which will enable it to maintain constant engine speeds. All this will extend its performance in work with mounted implements.

[Question] And how is maintenance of the minitractors and power cultivators being organized in the countryside?

[Answer] We have concluded an agreement with 150 enterprises of the Ministry of Consumer Services of the RSFSR and other union republics for warranty service and repair of machines made at plants of the Ministry of the Aviation Industry.

And where there are no organizations of the Ministry of Consumer Services, our agricultural equipment will be serviced by enterprises of the agriculture industry, with which negotiations are now under way.

At the same time, our plants are working to improve the quality and durability of agricultural equipment. In particular, the guaranteed service life for the motors in equipment will be increased from 500 to 750 hours.

[Question] I would like to return to your company stores and find out: where else is it planned to open them?

[Answer] "Anteys" will be opened in the first quarter of next year in Krasnoyarsk and Kirov. Later they will appear in Dnepropetrovsk, Kuybyshev, and Moscow.

8936

Gosplan Decision on Research in Use of Dirigible Trains
18290043c Moscow IZVESTIYA in Russian 6 Nov 87
p 4

[Report by A. Trutnev under the "We Provide the Details" rubric: "An Airborne Train"; first sentence is editorial introduction]

[Text] A state commission of experts of the USSR Gosplan has made the decision to begin extensive research in the development of airships and balloon-borne trains.

Picture it: a huge airship is "moored" to a mooring mast. And behind it, like railroad cars, are "fuel carriers." An airship heading a balloon-borne train of fuel—seven balloons made of supple but very durable polymer materials. Inside them is natural gas, which is lighter than air, as we know, and consequently rises. It is therefore possible to provide equilibrium with ballast, such as oil, for example. Thus the airborne fuel train can carry fuel not only in gas form, but liquid form as well.

The idea of developing such lighter-than-air trains towed by airships was not conceived by accident. Expenditures for transportation in exploring and prospecting for minerals and extracting them in the roadless areas of Siberia, the European North, and the Far East are astronomical in magnitude. And the farther the front to develop natural resources moves to the east or the north, the more critical and urgent the problems of developing economical, reliable all-terrain transport become.

As an example, the next "string" of the gas pipeline from Punga to Ukhta to Gryazovets is under construction. Thirteen tons of fuel are used to transfer 1 kilometer of pipe "lengths." And almost as much will be required for the dozen and a half towing tractors on the route. As a result, 25 tons of liquid fuel are consumed to take just 1 kilometer of pipe out from the Agirish station to the pipeline route.

Economists have calculated that the capital expenditures to bring oil and gas from Western Siberia to the European part of the country by airships would even be 12 times less than by pipelines.

There is a critical need today for aircraft with large carrying capacity which are capable of traveling long distances and which do not require the construction of airfields and special runways. Our largest aircraft, the "Antey," can lift a load of up to 50 tons. A group of Soviet scientists headed by Doctor of Technical Sciences V. Kuznetsov has designed a transport aircraft—the thermoplane—with a lifting capacity of up to 9,000 tons. It is about a kilometer in length and over 100 meters in diameter. Platforms are suspended from the thermoplane for carrying cargoes.

An interesting aircraft, the helistat—a hybrid between a helicopter and a balloon—is being suggested by the scientists headed by Candidate of Technical Sciences A. Larin. A conventional helicopter expends roughly three-fourths of its power for its own propulsion and only one-fourth for the payload. But the helistat will be able to use all its power to carry the payload. It has the prospect of being able to carry from 20 to 200 tons.

Many sectors of the national economy are interested in lighter-than-air aircraft. There are many prospects for their use in maritime shipping, construction, the timber industry, and power engineering. The application of such technology can increase labor productivity by several times as much.

8936

MOTOR VEHICLES, HIGHWAYS

USSR Auto Industry Minister on Sector Accomplishments

18290013 Moscow AVTOMOBILNAYA

PROMYSHLENNOST in Russian No 10, Oct 87 pp1-3

[Article by N. A. Pugin, USSR minister of the automotive industry, under the "Decisions of the June 1987 CPSU Central Committee Plenum in Life!" rubric: "New Approaches for New Conditions"]

[Text] The June 1987 CPSU Central Committee Plenum has truly historic significance: The decisions, which were adopted during it, are translating the ideas and principles connected with the restructuring of the management of the country's economy into practice. However, judging by the large international response that the plenum's decisions have evoked, its significance has moved far beyond the limits of our country. You see, we are talking about a radical reform of the entire mechanism of the management, economic and social ties that have taken shape during the last decade in the largest country in the world. For the first time in many years this very complicated mechanism is being reorganized in a complex manner in all of its links — in enterprises, in branch management and in the central economic agencies. The reorientation of the management mechanism toward final results and the overcoming of shortages, which are restraining management effectiveness, occupy a central place in the concept of the radical restructuring of the economy, which was proposed in M. S. Gorbachev's report at the plenum. The economy is being attuned to the priority of the consumer and to the conversion of scientific and technical progress into the main factor of economic growth.

A qualitatively new goal — the establishment of an integral, flexible and effective management system in the national economy that will permit the maximum realization of socialism's advantages — is being posed for the fulfillment of these tasks. This, in turn, requires a radical restructuring of the traditional centralized-distributive management of the national economy; the orientation of state management toward increasing the qualitative level of the economy and its strategic development; the insuring of accelerated rates, optimum proportions and balances; and the freeing of the center from interference in the operational activity of lower links. That is why it is envisaged that a cardinal reform in planning, price formation and the financial and credit mechanism will be carried out; a shift to wholesale trade will be made; the management of scientific and technical progress, foreign economic activity and questions concerned with the organization of labor and social development will be restructured; new organizational structures will be established to increase specialization and cooperation and to incorporate science into production; and, on this basis, a breakthrough to the world level of quality will be carried out. However, the main feature in this new system for managing the economy consists of the fact that its restructuring — in contrast to all previously adopted measures — is beginning from below, i.e., from enterprises and associations. The Law on a State Enterprise (Association) means that for the first time after many years of discussion about the need to increase the independence of enterprises and to grant them the appropriate rights in the areas of economics, planning, supply and sales, the plenum has approved and the Seventh Session of the USSR Supreme Soviet's 11th Convocation has

adopted a very important state document that has granted all the necessary rights and capabilities for active technical and social self-development to enterprises in a legislative way.

For example, the law frees enterprises from detailed planning of production and the development of science and technology regulated from above. All restrictions in determining the number and wage fund of plant scientists, designers and technologists and in establishing conditions for stimulating their work are being removed. The actual right to solve all these questions on their own is being granted to work collectives.

The external economic activity rights of associations, which are being provided by the law, are introducing a great deal that is new into the life of enterprises. The rational use of these rights will permit many technical re-equipping problems to be solved.

The law sharply extends the boundaries of enterprise independence in social development. This is directly dependent on the results of the enterprise's work. Conditions are being created, under which enterprises can build and maintain housing, children's institutions, clubs, holiday homes, and dispensaries from earned assets. In a word, the Law on a State Enterprise (Association) grants work collectives all of the rights required for their successful work. As is known, however, there cannot be rights without duties — without responsibility for the entrusted social property and for the observance of society's and the state's interests. That is why the law stipulates the enterprise's direct state responsibility for the satisfaction of the country's requirements for the products, which are produced by it, and their level and quality and for its profitable and loss-free activity, self-support (samookupayemost) and self-financing. The enterprise has this responsibility both to the country and to its own collective.

Thus, the party and state is counting on enterprises and their work collectives to accelerate the country's social and economic development, are allotting the main role in the restructuring of the economic mechanism to them, and naturally expect from them the chief result of the restructuring — acceleration. The meaning of the party's course toward democratization of the management of the economy lies in this.

The leaders of enterprises and associations and the work collectives must be thoroughly aware of the entire complexity and qualitative innovativeness of the tasks that are flowing from the new law — especially the fact that customary tasks regarding the volume and nomenclature of products, new equipment, capital investments, savings of metal, reduction of material stocks, and contract deliveries have ceased to be only reporting and evaluating indicators. They are now being filled with a real economic content, and the main thing is that their

fulfillment will have extremely noticeable economic consequences for the enterprises and work collectives. The first six months of 1987 is evidence of this.

During the first six months, the branch has experienced an entire "set" of difficulties during the transitional period: its transition to cost accounting and self-financing, the introduction of state acceptance at 85 plants, serious interruptions at the beginning of the year in the delivery of metal and components etc. Despite the difficult conditions under which the year began, the branch managed to fulfill the main planning quotas for the output of products and was even able to provide the country many motor vehicles above the plan. The planned growth rates for labor productivity and profit were also exceeded (the above-plan profit reached almost 130 million rubles). The quotas for the production of consumer goods, the assimilation of capital investments and export deliveries were fulfilled.

However, the preparations for the new conditions, especially for working under the conditions of state acceptance, were still not carried out at the required level. Instances of incomplete fulfillment of the plan with respect to the primary product list and, as a result, delivery contracts are explained by this as well as by interruptions in the delivery of metal and component parts. It is understandable that the failure to observe contracts could not fail to have economic consequences: A number of plants did not fulfill the profit plan and, as a result, the funds for expanding production, science, technology social and cultural measures, housing construction, and material incentives for the enterprise were considerably reduced. Such plants as the Balashovskiy Motor Vehicle Tractor Works; Voroshilovgradskiy Motor Vehicle Assembly Works (meni 60th Anniversary of the Soviet Ukraine; Groznenskiy Transport Machine Building Plant; GPZ-1, GPZ-10 and GPZ-18 State Ball Bearing Plants; Kozelskiy Mechanical Plant; and the Lebedniskiy Piston Ring Plant were completely deprived of economic incentive funds.

The financial condition of the majority of enterprises in the branch has now stabilized. In the enterprises of Glavavtobusprom [Main Administration of the Motor Bus Industry], Glavavtopritsep [Main Administration for Trailers], and Glavpodshipnik [Main Administration for Ball Bearings], however, the situation remains tense in connection with the previous failure to fulfill economic indicators.

From everything that has been said, it is possible to draw a simple conclusion: The reconstruction of work style has still not occurred in a number of our enterprises and reliance on the stable fulfillment of the plan for production and deliveries according to contracts is not being realized everywhere. Such large economic reserves as the intensification of the use of the machine-tool park, the transfer to multi-shift work conditions and the withdrawal of obsolete and unnecessary equipment — which becomes a financial burden under the new conditions —

represent, are not being fully used. Nevertheless, improvements already exist. At many enterprises, for example, work to find assets to stimulate work on night and evening shifts is being actively performed. Thus, additional payments were established for workers on evening and night shifts in the AvtoVAZ [Volga Motor Vehicle Production Association] at the same time that the new payment conditions were introduced. These questions are also being successfully resolved in the AvtoZAZ [Zaporozhye Motor Vehicle] Association, Borisovskiy Motor Vehicle Tractor Electrical Equipment Plant imeni 60th Anniversary of Great October, Melitopolskiy Motor and Minskiy Motorcycle and Bicycle plants, and a number of other enterprises. The organization of this work in the Minsk Motor Vehicle Works, where the indicators for using equipment are being taken into consideration during the summing up of socialist competition results and the payment of bonuses for the year's results, undoubtedly deserves attention. Here, the size of the bonus for workers under multi-shift conditions was increased to 25 percent, and a special system for awarding bonuses for freeing equipment was introduced for engineer and technical workers.

If one evaluates the state of affairs in the branch as a whole, however, there can be only one conclusion drawn: Questions concerning improvements in the use of equipment are still not being solved at the level that today requires. It is sufficient to mention that the target for withdrawing unnecessary and obsolete equipment was only fulfilled by 50 percent during the first six months of 1987. In a word, far from all enterprises are using the production reserves and opportunities that have been placed in the new economic mechanism. The reason is clear: Some directors are not at all able to reform themselves psychologically and to understand that relying on the help of the ministry under the new management conditions — as was done previously in the event of financial difficulties even with unsatisfactory final results from the enterprise's activity — means deceiving oneself and one's collective. It is now necessary to rely only on one's own capabilities and, based on this, to determine one's management policy in compliance with the Law on a State Enterprise (Association). There is no other way.

Our mastery of the principles of self-support (samookupayemost) and self-financing is, of course, still in the initial stages, but the restructuring of the economy's management system is taking place at all levels — in enterprises, in ministries and in the central economic agencies of the country. Naturally, difficulties are arising during this period just as during any transitional one. However, the following is already evident. The new management system is merciless toward any type of poorly thought out decision, omission and underfulfillment of one's task; it punishes enterprises, which do not fulfill their production program and their responsibilities to the consumers, in rubles.

A number of conclusions flow from this. The main one is that all of us must re-attune the psychology of management as rapidly as possible and actively use all sources for accelerating economic growth, the main one of which is the acceleration of scientific and technical progress. The goal of the branch complex program for scientific and technical progress during the 12th Five-Year Plan and out to the Year 2000 is not only to satisfy the requirements of the branches of the country's national economy with automotive equipment as much as possible, but also to insure during this a savings in automotive fuel in the country and the stabilization of those employed in the area of automotive transport. For this purpose, the 12th Five-Year Plan obliges us to completely update the entire product list of the branch, developing approximately 250 new and modernized models of automotive equipment with high consumer characteristics. Now, after the June plenum and its decisions on restructuring the economy's management, the need to connect this program with the new economic mechanism and with the conditions of cost accounting and self-financing, to which the branch transferred in 1987, has appeared, i.e., to transfer the implementation of the program from administrative and centralized methods to economic ones. In other words, it is necessary to establish conditions so that enterprises would not be forced to master new equipment — as was done previously — but, on the contrary, so that the new equipment would become economically profitable for each labor collective. The essence of the restructuring of management thinking, which is acquiring special importance in connection with the adoption of the Law on a State Enterprise (Association), lies in this. This restructuring is also important because the mastery of new highly efficient equipment is the main source of the enterprise's opportunities to earn the assets that are required for technical and social development. That is why the primary tasks are the complex reorganization of the scientific research and engineer services engaged in the development of designs and technologies and production preparations and the accelerated modernization of their scientific and technical base. This work must be combined with the introduction of new organizational structures and new systems for paying for the work of the creators of new equipment.

The active social development of work collectives based on the assets earned by them is playing a very important role in the implementation of the decisions of the June 1987 CPSU Central Committee Plenum. This requires a rapid and general shift to the standard formation of wage funds depending on final results. The latest documents of the party's Central Committee and the USSR Council of Ministers are opening up broad opportunities for reorganizing the wage system, increasing the interest of collectives in decreasing their size without allowing wage-levelling, and insuring a differentiation in wages. One of the main work avenues in the branch's enterprises is the wide-spread use of the collective contract, including the incorporation of engineer and technical workers in it.

Housing construction remains a subject of special concern. Considerable assets are required in order to guarantee the family of each worker in the branch a separate apartment. It is hoped that someone will provide them, but this is impossible — they must be earned. This means that contract deliveries must be fulfilled accurately and that new equipment with high consumer qualities must be produced. There is no other way because all of our social plans are rigidly tied to final work results and to economical and effective management. Each worker in the branch must master this indisputable truth.

When evaluating the work and tasks of branch labor collectives with respect to restructuring in light of the decisions of the June 1987 CPSU Central Committee Plenum, one can say that positive changes, which are especially valuable during the difficult transitional period, are appearing in associations and enterprises where they are learning to think in the new way despite the difficulties. The main success will depend on how rapidly all collectives in the branch, especially the directors of associations and enterprises, will be able to improve their work methods.

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Characteristics of Moskvich-2141 Outlined
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[Interviews with Moskvich-2141 owners by S. Nikolskiy, ZA RULEM correspondent, Moscow; date of interviews not given; first two paragraphs are ZA RULEM introduction]

[Text] Quite a bit has already been written and said about the difficult mastering of the new front-wheel drive model at AZLK [Moscow Motor Vehicle Works imeni Lenin Komsomol]. Optimistic and bitter, justified and before the fact. Life, however, goes on, model 2141 automobiles emerge from the production line, go on sale, and are already no rarity in the capital's transport pool.

Our correspondent stopped owners of the new Moskvich model directly on the streets near their vehicles and asked them to share their first impressions of the automobile and to evaluate it. We count on the fact that these statements will interest not only future buyers but also those who produce the Moskvich-2141.

K. Rudakov: This is not my first Moskvich. Therefore, I can compare: What was and what is. The poor quality of assembly at AZLK, alas, still continues. I judge this from my own Moskvich-2141. When comparing it with my previous model, I will point out that it is undoubtedly more improved. Take as an example the heating: Now, no cold is frightening (remember the Moskvich-412).

Generally speaking, I would say that the vehicle is a beautiful one in concept and ugly in execution. A comfortable and richly trimmed interior appears before the buyer in an indecent condition. I received a vehicle one side of whose interior had upholstery of foreign origination and the other side — of domestic. Ours literally came unstuck on the second day. I replaced it in accordance with the guarantee — a day later it was the same story. The Italian held up as if there was nothing to it. I would like to direct the attention of not only the AZLK workers but also that of those, who deliver the finishing material to the plant, to this.

Regarding the design, the main shortcoming from my point of view is the welded hinges on the doors. This complicates repairs incredibly. The VAZ [Volga Motor Works]-2106 engine is clearly rather bad for this model. I traveled 11,000 kilometers and the fuel consumption was 7.5-8.0 liters per 100 kilometers. That's not bad. However, it used six liters of oil during the last 5,000 kilometers. Evidently, the specialists can surmise what this testifies to. Of course, everyone is waiting for a new engine — a modern and economical one. They secretly hope that it will be a diesel modification. This is by the bye.

What else can be said about the vehicle. A splendid design, handily located controls, a spacious interior. However, you appreciate and feel all this when you, yourself, take a hand: You adjust the seat supports, you draw the fasteners so far, you seal up — where required — the weather stripping on the windshield — what else is there to list? Much more!

S. Firsov: I admit that I purchased the Moskvich 2141 because of the engine. I have experience in altering the Zhiguli motor for 76 gasoline, and this version suited me most of all. This circumstance is now the only thing that I value in a vehicle. In other respects, there are disappointments — I do not even like the design. It seems that the rear window is somewhat small. One day, I was at the VDNKh [Exhibition of the Achievements of the USSR National Economy]; I saw there an experimental IZh [Izhevsk Motorcycle Works]-2126. I assume that the new Moskvich would look considerably better — the rear portion of its interior would be the same as this model's.

In all, I have traveled 12,000 kilometers since the spring, but all of the foremen know me already from the "guarantee". I have changed the glands of the half-axes twice and I will soon do so for the third time. I have arrived at replacing the kapron inserts in the steering connections. But then — the further one goes into the forest, the more the firewood: The semi-axes, one of the numerous relays, etc., etc.

From the first days, I noticed that the hubs of the front wheels got warm: Ten minutes of travel and — if you please. The spare tire is not mounted handily. In order to get at it, it is necessary to kneel down. This is summertime, but in the winter time — direct! — in the snow? It is

very bad that there are no splash guards behind the front wheels. They are the driving ones — a little rain and the doors are all dirty. Speaking briefly: I would not advise another to purchase these shortcomings at such a high price.

D. Novikov: You only hear horrors and terrible things about the new Moskvich. I do not have any special claims against it after 4,000 kilometers. I spent a long time selecting the machine in the store — out of 50. I selected but ... the "heater" did not work in it, the air ducts were not connected, the interior's upholstery came off, and I found a leak in the windshield's weather stripping — look, I have closed it up with plasticine. I eliminated everything myself, and the splash guards — here they are; I also made them with my own hands. I understand that all of these are growing pains, but it is annoying.

Generally speaking, the vehicle is a good one. I like the design even more than the Volvo, which I have had an occasion to drive. The vehicle's price is a respectable one, but I think that it corresponds to the comfort which you receive from it. I have ridden in a VAZ-2107 and VAZ-2108 and therefore I have something to compare with. The Moskvich-2141 is better. It has a roomy interior — it even permits a baby carriage to be loaded inside it (I have a small child) and a baby's bath. I have also had an occasion to transport a Minsk dual-compartment refrigerator.

In my opinion, the automobile's acceleration characteristics are good although, at first glance, the impression can be given that the engine's power is not sufficient. Fuel consumption in the city is rather large: 10 liters per 100 kilometers. I cannot fail to point out the handy position of the steering wheel and the good antirust covering of the chassis. Frankly speaking, the vehicle was a success for the factory. Its advantages are more than its shortcomings.

I. Proshin: I have already operated a new Moskvich for two months. I am more and more convinced that the design was carefully thought out. An excellent design with an interior that is outfitted with taste, a comfortable driver's seat. It is possible to list the advantages for a long time. But there are shortcomings....

I went to the store twice to select a vehicle. The first time I was not lucky. The interior upholstery was bulging in all automobiles. The second trip turned out to be more successful. Nevertheless, soon after my purchase numerous imperfections, shortcomings and lack of adjustments began to disturb me. Unfortunately, we consider this normal. Until you, yourself, do something, you will not drive. When I corrected everything, I understood that it is our best machine today from among all models — without exception. When I arrived at the warranty station, I heard dissatisfied owners speak about the plant in loud voices, angrily, and — at times — peremptorily. All were complaining in one voice about the numerous

defects and about the absence of front wheel splash guards. All of these troubles are remediable. It is only necessary for the factory to take a hand in it. I myself made the splash guards for behind the front wheels and the "flaps". Why cannot they be produced as an accessory and mounted at a service station?

N. Semenov: The concept of the Moskvich-2141 is a good one to be sure; however, the quality of execution — you will agree — detracts something. There are problems. I went to a car wash — water entered the interior through the packing around the windshield. I had to immediately take up all the rugs. In a rainstorm, they become like a sponge and your feet are soon thoroughly wet. The fan regulators do not operate, and all of the heat from the "heater" goes into the interior. Something rattles in the speedometer at a speed of 60 kilometers per hour. Oil drips from the transmission. Small details, seemingly, but vexing for the capital's firm. Of course, it is difficult to make a new model perfectly right away; however, we, automobile owners, expect it and with hopes. We expect that all nuts will be in place. Two bolts will be placed on the accelerator pedal — that there will be two and not one. If the handles of the rear doors must be attached with screws, let there be screws and not something entirely unknown.

V. Dolgoplosk: The automobile has an excellent external appearance, a large and comfortable interior, and a spacious trunk. It is economical, it does not fatigue the driver, it has good riding qualities and has been well thought out as a model of an undoubtedly higher class than all the Zhigulis. The automobile, however, is still green. A frankly hack-worked assembly. This situation is aggravated by the work of the Moskvich SATs. The automobile owner has a right to demand for 9,632 rubles a complete item and not a semifinished item such as I, for example, received.

The decorative wheel hubcap flew off after the first 300 kilometers and was lost because of its poor attachment. Next, the transmission "drooped": It was attached by only one bracket instead of two. The right rear shock-absorber, as they later explained, was mounted already broken. What else? The upholstery came unstuck. Oil began to flow through the transmission plug. My appeals to the SATs regarding the warranty came to nothing. Although the vehicle is a good one, is economical and holds the road beautifully, what can one say about it after such a collection of faults? Even if there is quite a bit that is good about it. When driving in the rain, the rear window always remains clear. No one can say this about the VAZ-2108. I was surprised at this. This means that the chassis has improved aerodynamics. The engine is easily accessible for servicing. There is a powerful "heater" and comfortable arm-rests!

Basically, the automobile is not a very bad one. We are not perfectionists and do not require absolute perfection — I think that breakdowns are also encountered on a Rolls Royce. However, let the assembly of the Moskvich-2141 finally become one of high quality.

S. Sumarokov: I have just bought my vehicle. Little time has passed. There are not many defects as yet. However, the transmission is noisy, the glass in the doors rattles, and water trickles in through the windshield weather stripping in the rain. And, excuse me, the "spare" is got at from behind; there is absolutely no place under the chassis. How will one remove it in the winter when it freezes? I have heard that a new engine is being tested: It is somewhat shorter and the location for the radiator is in front of it and not to the side as now. Well then, put the "spare" under the hood on the right instead of the radiator. However, when will this motor arrive? They say that a new motor casing is already being built in the plant. This is healthy but the new engine will appear in vehicles, I think, no sooner than about three years.

What else can one add? Not only the owners of the vehicles but also the plant specialists know about the shortcomings in its manufacturing and assembly and this means, about its low quality. Thus, comrades in the motor works, along with your allied workers get rid of the defects and achieve a high reputation for your child. All of us heartily want the Moskvich-2141 to become an excellent automobile as soon as possible. We criticize the works for this and not only because we are personally undergoing inconveniences.

Technical Characteristics of the Moskvich-2141

At the request of the magazine's readers, we are publishing the technical characteristics of the new front-wheel drive AZLK as a supplement to the description of the automobile (*Za Rulem* 5 and 6 1986).

General data: Seating — 5; weight, equipped — 1,070 kilograms; weight of transported luggage — 50 kilograms or 260 kilograms (with two people); permissible weight of a towed trailer without brakes — 350 kilograms; retail base price — 9,632 rubles.

Operating characteristics: Maximum speed (with a full load) — 153 kilometers per hour; acceleration time from a halt to 100 kilometers: with a driver and one passenger — 15.5 seconds and with a full load — 16.7 seconds; fuel consumption, liters per 100 kilometers: at 90 kilometers per hour — 6.2; at 120 kilometers per hour — 8.4; city driving — 10.0; fuel capacity — 58 liters.

Dimensions: Length — 4,350 millimeters; width — 1,690 millimeters; height (without a load) — 1,400 millimeters; base — 2,580 millimeters; wheelspan: front — 1,440 millimeters, rear — 1,420 millimeters; road clearance — 163 millimeters; turning radius of the front wheel — 5.0 meters; trunk volume — 0.37 cubic meters.

Engine: VAZ-2106-70 model; number of cylinders — 4; operating volume — 1,568 cubic centimeters; compression ratio — 8.5; fuel — AI-93 gasoline; power — 76 horsepower/56 kilowatts at 5,400 revolutions per minute; maximum torque — 12.4 kilograms of force · m/121.0 H · m at 3,000 revolutions per minute.

Transmission: Clutch — dry, single disk with a diaphragm spring and cable linkage of the disengagement; gear box — 5 speed with synchronizers in all transmission gears of the front drive; gear ratio: I — 3.308; II — 2.050; III — 1.167; IV — 0.946; V — 0.732; reverse — 3.357; final drive — hypoid gear with a 3.9 gear ratio; drive for the front drive wheels — semi-axes of identical length with ball-and-socket joints of equal angular velocities.

Wheel suspension: front - independent, spring of the "rocking candle" type with a roll stability regulator; rear — dependent, spring, with longitudinal laminated levers and cross reactive thrust; wheels — stamped, disk with 155/80R14 tires.

Controls: steering — rod; brake system: operating one — disk brakes on the front wheels which are equipped with floating-type calipers and with drum brakes on the rear, parking brake — on the rear wheels; brake drive — hydraulic, dual loop with an hydraulic amplifier.

Chassis: type — hatchback, unitized body; number of doors — five; length of interior — 1,715 millimeters; width at shoulder level — 1,400 millimeters; equipment: triple layered windshield; removable front fenders; outside rearview mirror (on the left); H4 hallogen lamps in the headlights; windshield washer; 3-speed windshield wiper; dividing shelf between the trunk and passenger compartments in the interior; front seats with headrests; seat belts for four seats; as part of the automobile: a hydraulic headlight adjuster; headlight cleaner and washer.

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RAIL SYSTEMS

Problems To Be Resolved in Acceleration of Rail Transport

18290024 Moscow PRAVDA in Russian 6 Oct 87 p 2

[Article by Ivan Sharov: "Strike the Rail"]

[Text] It has occurred to me: Is there not an etymological kinship between the word "road [doroga]" and the word "expensive [dorogoy]"? For example, there is freight whose delivery costs half of its value. There is no where to evade it. It is necessary to carry it. Products, which lie in a railroad car, truck body or ship's hold, still do not have any significance as a commodity. Until they reach the consumer and are in circulation, it is as if they had been excluded from the area of usefulness and application. It is easy to come to the conclusion that the speed of delivery is the most important economic category, the more so since goods valued at many billions of rubles are on their way simultaneously.

It Is Not Spread With a Tablecloth

Why beat the rail and give a signal — in this case, an alarm and not an invitation to eat at the field camp? There is this reason. The railroads, which have taken the major amount of transport work on their shoulders, have not spread out a tablecloth for the mighty stream of cargo; there are more and more "pits and bumps" on their routes. It is possible to suppose that the wheel rapping will not shortly become more frequent by delving into the situation on the main lines and by studying the reaction of their customers. The purpose, we repeat, is a most important one — not to linger on the way so as to put the cargo to work without delay and so that the people, crowding near the car windows and glancing at their watches, do not swear that it is better to travel by cart transport. This is really the case when every tenth train — and even more — was late during the current six-month period.

However, here is what is strange: Few letters from angry passengers arrive in the editorial mail. It is apparent that some set of passenger sensations is being displayed, in which displeasure inclines towards the feeling of ... satisfaction. You see, one manages to purchase a ticket with such difficulty that it is a success to take one's seat. The lucky one travels with watery tea, rustles yesterday's newspaper, and taught by experience, he and the one meeting him are prepared for a delay. This, generally speaking, standard "phenomenon" is noted by many; and the transport workers themselves, who are accustomed to the "privileges" of the only accordion player in the village, surely know about it also. If you do not want to — do not listen, that is, do not travel, the more so since passenger shipments in no way predominate in the indicators of the railroad workers.

The main and major income comes from freight operations — from enterprises, mines, construction projects, and institutions. They beat in alarm on the rail in a justified attempt to direct attention toward the alarming situation with respect to the dispatch of freight — more accurately to everything that is connected with this procedure. You see, a complete relay-race is connected in the manner of a consist and, although there are many obstructions and much disorder on each of its sections, this section — the direct transference of cargo — is the most bumpy.

I am confident that there will be no day when complaints will not be addressed to railroad workers. They are arriving at newspaper editorial boards, *Pravda* in a stream, control agencies, arbitrage agencies, and — of course — at the Ministry of Railways without a break. I am confident that the complaints will not lessen and that there will be more of them. The branches and enterprises, which are shifting to the new management track, cost accounting and direct contract ties, simply will not tolerate the usual lack of responsibility on the part of transport workers no matter who they are — the more so

since today they have the right to fine the debtor. He must pay the fine from that part of his profit which is directed toward economic incentive funds.

I have often heard the pensive sigh of the production workers: Would that we had speeded up the task so that freight would arrive with overseas accuracy. There are the Japanese who do not cram warehouses to the rafters as a reserve; they are confident that their partners will deliver the required item without fail by such and such a day and for such and such a production operation. These sighs, however, must be replaced with the exacting strictness of our economic executives. Deliveries on time, completely and without damages — this is the only condition acceptable today, that is, we are talking about the quality of transport services, which evokes heavy sighs.

A "Short-Winded" Diesel Locomotive

What is "output" for transport? The ignorant do not know and can say: It has no output. However, there is one. The transport process — this is the output of the railroads, motor vehicles, ships, aircraft, and pipelines. This means that there is also an indicator for labor productivity. The amounts of delivered freight are divided by the number of staff workers. Here it is in front of us. This most important criterion. They are striving to raise this decisive indicator on the railroads just as in other branches. It is growing on the steel main lines. For example, the incorporation of the Belorussian method, which — in particular — was accompanied by a decrease in staff lists, has raised labor productivity. The attractiveness of this measure has proven to be so strong that the innovation has "travelled" from Belorussia to all the roads. Yes, and how can one object to it when such a clear gain is available?!

Where? Many readers of *Pravda* ask this question, easily finding flaws in the Belorussian windfall. It seems that geographic, demographic and other amendments have not been taken fully into consideration, and the universality of the valuable (but nevertheless local) initiative of the progressive railroad has been subjected to criticism in places — especially in Siberia and the Far East. It happens that there is no one to cut there and that they are more concerned with how to patch up personnel holes. A different climate, a dissimilar route relief and, you know, even the rails are different. Is it not time to introduce some kind of "rayon division coefficient" when disseminating the experience and initiatives that have shown their advantages in some other place? That is, to evaluate sensibly what kind of seed and where it will sprout.

They have cut a crossing keeper in accordance with the Belorussian method, and a dangerous track crossing has become even more dangerous. The reduction of staff lists corresponds to the present desire to save manpower resources. Nevertheless, before allowing on a road an

enormous consist controlled by one engineer, it is first necessary to supply him with mechanical and electronic helpers. We talked about this long ago; however, as usual, words outran deeds.

Genuine clashes continue between supporters and opponents of heavy-weight trains. Even without delving deeply into the arguments of both sides, it is immediately evident that there are sufficient errors in this method of increasing freight traffic. True, the consist of the opponents is puzzling: For some reason transport commanders consider heavy-weight trains almost without reservations to be the most correct way to get out of the gap, but the practical workers — those who drive them — "beat the rail".

Judge whether it is unwise to indeed object to the new technology. Here are the arguments which have been expressed by V. Ginko, first deputy minister of railways. The traffic capacities of the lines are limited and it is impossible to increase the number of trains, but freight traffic is growing. A "window," that is, the halting of traffic, is required to repair the track and perform maintenance on the power supply system and other technical systems. However, freight cannot wait, it needs speed. However, there are routes, such as the Donbass-Carpathian, Moscow-Gorkiy-Sverdlovsk, Novosibirsk-Tayga-Krasnoyarsk, and others where it is impossible to assure railroad car traffic in the necessary amounts without trains having increased weight and length, including connected ones. They think in the branch's headquarters that this technology is acquiring a network — in other words, a broad — significance. Besides everything else, it permits from 5 to 15 percent of the fuel and energy resources to be saved depending on the profile of the sector being serviced.

Surprising? We will not begin to take upon ourselves the role of arbitrator — but let us listen to the other side. K. Pavlov, an electric locomotive engineer from Nizhny Tagil, has driven trains for 27 years. Increased-weight freight cars, which are loaded to overflowing, worry him. Every day, he sees the number "69" — the number of tons permitted by the standard and the specifications for loading a railroad car. A ministerial directive prescribes more freight, 80 tons. The endurance of railroad cars with such a heavy load was checked by an experiment approximately two odd years ago. They made several trips for distances of more than a thousand kilometers and the cars survived. However, you are not calming down the practical workers: You see, a railroad car travels up to 65,000 kilometers a year, but if something was broken on the test 1000 kilometers, a great deal will "fly off" on a road which is many times longer than the experimental one. And so it is: Breaks in the springs, cracks in the beams over the springs and the side-frames of the trucks, and expansion of the bodies became more frequent.

The railroad car builders came to the conclusion that a load, which exceeds the design one, leads to a significant decrease in the reliability of freight cars. The train

engineers after all looked steadily at where these 11 tons over the design limit would lead. The main thing is that speed is lost. K. Pavlov, a Ural worker, travels where there are few direct sections; the movement speed of his train falls twofold and the expenditure of electrical energy grows.

"It seems that there is a bone in the throat of dispatchers of trains with an increased load," these are the words of N. Vyzov, a duty attendant on the road's Nizhne-Tagil Division. Such consists "creep" and they delay the runs of others.

The rails are steel — a visible standard of indestructibility, strength and reliability. It seems that they have been placed on a tie — and pursue any weight while only now and then looking to see that a certain Chekov malefactor has not unscrewed a nut from a joint for a fishing need. Such damage to the steel gauge is not expected, but "malefactors" are now appearing on the railroad in a more dangerous aspect, threatening it every day.

Track facilities — this complicated engineering design — are among the weakest links on railroads. Here, the situation is clearly not well. On individual sections of the network, more than 100 million tons of freight travel annually, and the load is increasing with each year. There is direct evidence of an intense wearing out of all the track elements; meanwhile, the expenditure of manpower to maintain it is being decreased, including thanks to the general introduction of the Belorussian method. Tens of thousands of "iron" kilometers require repair. You see, the main thing is to prevent the appearance of trouble on the routes and not to eliminate them. An important sequence.

Here, the circle is closed. Speed is required; however, one cannot drive at high speed since two-thirds of the warnings about the need to decrease speed are caused by troubles on the tracks. Up to half of the required track workers are lacking in the rayons of the Urals, Siberia and the Far East. The "failure to completely staff" is being aggravated — it is necessary to reduce staff in order to raise labor productivity (!) I know that the tendency to save railway track engineers on staffs has been preserved for years. How, it is asked, is it possible to put the railroad-bed into order with few forces, miserable mechanization and "windows" opened a narrow crack, which are cut out of the movement schedules of the consists? There is already an accurate definition for this situation — to work "under the wheels". It is possible to judge about the quality of repairs here without pondering over it.

The fact is indisputable: Railroads operate at a very strenuous pace, basically having available physically obsolete equipment. The percentage of capital investment in rail transport is now 2.8 percent of the total volume for the national economy. The disproportion in the growth of production funds in industry and in transportation of all types is being seen more and more

clearly. There is almost a twofold lagging behind. They will say: But, you see, the Ministry of Railways transported more than four billion tons of cargo last year and the branch coped with its outlined plans. In return, the picture is somewhat worse during the first six months of the present year. The severe winter showed that the main lines do not have a reserve of strength. Despite all efforts, the winter disruptions of shipments are even now reverberating on the transport conveyor line.

The "diesel locomotive" of the branch is seemingly travelling uphill all the time, and its "shortness of breadth" is heard more and more. It is necessary to save the railroads — M. Brekhov, a transport veteran from Dnepropetrovsk, and others also understand the situation on the main lines this way. It is becoming tighter on the roads from year to year. Looking ahead, it is easy to picture traffic jams at transport hubs and "thrombi" in supply channels that will be disastrous for the economy. Acceleration or braking — which will be stronger? It is impossible to even pose this question today. Only acceleration — both in a literal and in its now generally accepted meaning. The quality level of transport work, just as that of any other work, will soon become the determining and main requirement when evaluating all transport processes.

Apparently It Is on the Side of the Road...

How is it possible to build up speed if freight and passenger consists travel on one and the same track and to whom should preference be given — these are the main questions. Specialists say that they are convinced that it is necessary to construct new routes and to divide them into high-speed passenger and freight ones based on their designation — like that road on which we almost flew from Moscow to Leningrad and back — 650 kilometers in 4 hours and 39 minutes. The ideal, a dream — this main line is in this category now if one can talk about ones similar to it on other avenues. We have no more of these roads. However, they should exist since this will be one of the radical ways to improve transport work.

Let us take, for example, the Moscow-South avenue. Freight shipments will grow here by 20 percent before the year 2000, and passenger traffic will exceed this figure. A special high-speed passenger main line is desperately needed here. Yes, certainly here! Is this also a dream? However, there is no way out; you will not make the economy wait.

The Belorussian method, heavy-weight consists and other measures will be of benefit within certain — better to say, wise — limits of their use. However, this is far from the main towbar behind which it is necessary to drag a cart. Jams on the roads can and must be cleared even now with present-day technical equipment if a good organization of the task is added to it. And not only on the steel tracks. Perhaps, one observation will appear offensive to the transport workers; however, you see, it

literally hits one in the eye. How did it turn out that the shippers — the producers of the products and of the goods — were on the public economic "scales" as if it were "easier" for those who simply transport their products and who most often dictate their conditions? In the production-transport-distribution chain, the middle link has conferred on itself a certain type of monopoly and movement away from general economic interests. Is it not in this that it is now necessary to look for a considerable portion of the flaws in transport work?

We will not forget the rule of economics: Transport continues the production process. Here is such a coupling. Somewhat stronger than a freight car's, but it's as if it stands on the side of the road at times....

08802

Post Plenum Discussion of Automated System 18:29022 Moscow GUDOK in Russian 10 Nov 87 p 2

[Article by A. Kapkov: "Steam Engine Measures During the Computer Age: Thoughts Following the Plenum of the Scientific-Technical Council on the General Scheme of Development of ASUZhT (Automated System for Controlling Railroad Transport)"]

[Text] In the hall of the MPS [Ministry of Railroads] where the plenum of the scientific-technical council devoted to the development of ASUZhT took place a curious detail attracted my attention. Across from the model of the old-fashioned Cherepanovsk steam engine the workers of VNIIZhT [All-Union Scientific Research Institute for Automated Control Systems] had installed a display of the micro-computer. Steam engines and computers. History and the contemporary era.

We have somehow grown accustomed to the enormous expenditures for ASUZhT. Investments into the computer industry exceed the billion mark. And what about the return? During the last five-year plan it did not reach even 1.5 hundred million rubles. During the current five-year plan with expenditures of over 600 million rubles there will be a return of not even half this sum.

These figures, taken from a report by Yu. Khandkarov, director of the MPS Main Administration of Computer Technology, speak of the extremely low, intolerably small return on investments into computer technology. How can we achieve a change and at least the self-financing of ASUZhT? There was no answer to this question either in the report or in the speeches of specialists.

Although the speech of the glavk director was called, "General Scheme and Comprehensive Program for the Development of an Automated System of Controlling Railroad Shipments," essentially there were no basic resolutions in the general scheme as such and certainly

no variants on the subject. There were only timid assurances that the developed portion of ASUZhT has withstood the test of time and only requires insignificant modernization and then it can sharply increase return without radical changes.

Instead of a well-founded program we have the tactics of small improvements and a departmental attempt to gain capital without the assurance that it will yield a return. Again and again we hear complaints about "objective reasons" and about the fact that if the delivery of computers improves and communication means are developed the situation will move forward.

But the situation is not moving forward. The indeterminate nature of the general line makes it similar to a ship without a rudder. And for this reason in his speech together with the ascertainment of victory concerning the number of operating ASU [Automatic control systems] the glavk director had to admit "ASUZhT is not effective."

Also not comforting is the admission concerning the imperfection of the system "from below" and "from above." It turns out that the problems were discovered only in 1985. Problems involving supplying information to automated dispatcher control centers have not been studied and their development has been approached without a precise plan. Where and how will these centers be located, separately or together with DVTs [railroad computer center]?

And this is the way it is for any point in the ASUZhT general scheme — innumerable uncertainties. The level of automation within data processing centers cannot exceed 45 percent because, in the opinion of the glavk, for this purpose 12 railroads will not have an adequate number of computers, and so forth.

There are more than enough disproportions in the development of ASUZhT. Even a supporter of the glavk position, O. Tolstoy, director of the Moscow DVTs, was forced to admit that ASU's for loading stations, container platforms and automated work places have existed on the railways in single specimens for a long time and obviously do not affect the situation.

At a meeting of NTS [Scientific and technical council] many computer operators have made practical suggestions for improving ASUZhT. But these are all individual measures, whereas what we need is universal measures. It turns out that specialists are not ready for them. It is not without reason that not a single one of them answered the question posed by the chairman of the NTS presidium, Minister of Transportation N. S. Konarev, concerning what specific returns there will be from ASUZhT, how to improve the use of rolling stock and how to improve labor productivity.

Doctor of Technical Sciences V. Buyanov, chairman of VNIIZhT [All-Union Scientific Research Institute of Railroad Transport], did not answer these questions. Yet these people request millions in capital. What is going to be financed? Can it be that as before, capital will be directed into uncertainties, into unclear conceptions of systems, into imprecision and into a fragmented structure of informational, technical, programmed and legal aspects of ASUZhT.

Some speakers attempted to correct the estrangement of automation from economics and from clearly calculated plans by means of administrative pressure. Slogans which were very attractive at first glance were presented — "Introduce electronic state reception!" and "Issuing only computer documentation for each train!"

The demands, of course, are proper ones. But how should they be embodied if machine reports still have not achieved the status of legal documents? Imperfect documents do not permit us to precisely standardize either the quantity or the quality of information. Buyanov emphasized that with a document turnover of 20,000 reports for the Ye-S-1035 computer it is sometimes necessary to wait for half an hour in order to receive the needed report. Sometimes machines are crammed with whatever is available.

The imperfection of information searches in railroad departments and railroad line enterprises also causes additional concerns. There it is necessary to preserve and develop both computer and manual accounts systems. Here is an illustration of that concept. A. Polikarpov, director of the Administration of Statistical Accounting and Account-Keeping of MPS, said, "Only individual VTs [Computation centers] process the routes of machinists and railroad registers, and even this they do only partially. Of 70 sorting stations having an ASU machine account-keeping is fully carried out by only one — Orenburg station."

How can we breathe life into the enormous task standing before ASUZhT? How can we make the automation system effective? At the NTS there were many proposals regarding this. There were also extreme points of view here. For example, a thought was expressed that railroad computer centers should be given the status of state enterprises. Then it would be possible to sell information and thus to achieve self-financing.

This idea, which was presented by I. Nikulin, director of the DVTs of the Southwestern Railroad, was not shared by everyone. Not everyone is ready for it. But the precedent already exists in the Belorussian Railroad. There the DVTs has operated on a self-financing basis for a long time and brings in profits from the sale of information to clients. How is this achieved?

The director of the Belorussian DKTB [Expansion unknown], Yu. Bylinskiy, gave a clear answer: "By means of the orientation toward a principally-new technology. This directly affects improvements in the final results of railway operations. Today we are awaiting basic results from the introduction of an automated dispatcher control center. The installation of the first stage of ADTsU [Center for automation of dispatcher control] is in progress. The component base created for this purpose on great integral schemes is several times less expensive in cost than existing systems of dispatcher centralization.

With the help of the ADTsU and a dynamic railroad model it will be possible to fully automate the work of dispatchers in Belorussia and to make a transition to unit control soon. The continuity of planning and modeling the shipment process on the computer will help dispatchers to optimize the work of every unit in the dialogue with the machine.

The example of the transition of the Belorussian railway to unit control is a real alternative to the Donetsk system of centralization. But still another variant also exists — the one on the Northern railway. Which one will turn out to be most successful and economical? Right now it is still difficult to say. Why doesn't the glavk declare a competition for designs and set a deadline for presenting them to the public? Better than any calls this would inspire creative thought in specialists and the development of a real technical and organizational base for a new general scheme of branch management.

Truly revolutionary ideas are needed. Some specialists speaking at NTS were not afraid to use their imaginations, reaching cosmic heights in the full sense of the words.

Outer space was mentioned (it is true, only in the lobbies). The subject under discussion was the fact that it is possible to utilize satellite communication systems to replace today's undependable aerial lines.

Yes, for the transition of the branch to complete cost accounting new ideas and new decisions are needed for ASUZhT. Let there be more of them, these different ideas. Meanwhile how many times have we heard about the adaptation of modern electronic technology to an obsolete structure and technology of management and document processing. We must have an end to the psychology of the management style of the steam-engine era.

8228

Progress, Problems in Implementation of New System

18290018a Moscow GUDOK in Russian 4 Oct 87 p 2

[Interview with B. Shevandin, chief of the Main Planning and Economics Administration of the Ministry of Railroads by GUDOK special correspondent M. Kaganskiy; date and place not specified]

[Text] Transport subunits are preparing to convert over to an economic basis. In all, only 3 months remain before the branch converts over to complete cost accounting and self-financing. The most important instrument — a tense but necessarily realistic, well thought out and balanced plan. For the most part, it has finally been completed for the remaining years of the five-year plan. It has been awaited with impatience in all areas — by the railroads, branches and line enterprises. The fact that it will introduce new aspects into the practical work of the steel mainlines is the subject of a discussion by the chief of the Main Planning and Economics Administration of MPS [Ministry of Railroads] V. Shevandin and special correspondent of GUDOK M. Kaganskiy.

[Question] Vasily Alekseyevich, the new plan has assumed visible contours following long and difficult discussions. In the manner of a tuning fork, it must set the tone for all work during the current five-year plan, serve as a link between the mainly administrative and mainly economic methods of management and create the conditions required for raising the independence of labor collectives. Is this being achieved?

[Answer] Beyond any doubt. This year an enterprise will be supplied from above with only four groups of initial data instead of the many indicators received in the past. It will be provided with control figures, long-term economic norms, state orders and limits.

The nucleus of the plan is a goszakaz [state order]. For example, the most important requirements of the national economy are taken into account in a goszakaz for a shipment of freight. It consists of two parts: one is established by USSR Gosplan. This includes freight of 13 very important types. The other part — construction freight, fluxes, refractory materials and paper — is planned by MPS and coordinated with Gosplan.

A goszakaz is established based upon the requirements of ministries and departments and supply plans. It is distributed among the railroads with their specific requirements being taken into account.

A principal difference of the present plan: it has become more flexible. Today firm plans are being prepared only for a goszakaz, the limits for centralized capital investments and the introduction of capabilities into operations at their expense and also for economic norms. In the case of the remaining sections, the collectives themselves approve their own production program.

[Question] Can it be that today's plan is no longer dogma but rather serves as a guide for action?

[Answer] This is completely correct. On the one hand, it reflects through a goszakaz a strategy, the principal priorities and the goals of the national economy and the branch and, on the other, it ensures a combination of a centralized beginning with the independence of enterprises and it becomes more democratic. Although for the

network as a whole goszakaz's account for an average of 81 percent of the shipments, there are railroads which have a 100 percent "nucleus" For example, the Donetsk, Kemerovo and BAM [Baykal-Amur Trunkline] railroads, where mainly coal is transported. This is also typical of some other railroads which ship priority type freight and particularly fuel.

[Question] Does this mean that the system for planning remains as in the past for such railroads?

[Answer] Yes, this is generally true.

[Question] Then you agree that the plan essentially remains rather strict. It bears mentioning that the editorial board is receiving letters from the railroads concerning the voluntaristic approach being employed by workers attached to your main administration in preparing the plan. Could it be that the readers are correct?

[Answer] Yes, to a certain degree. We consider the optimum value for a goszakaz to be at the 58 percent level. Why is it said that we will not let go of the reins? I will state quite honestly: we fear that the railroads cannot take advantage of the independence extended to them. Many leaders think in terms of former categories and they strive to develop an "easy" plan. Earlier it was indeed this way. A less than tense plan was achieved and it was over-fulfilled and by a parasitical method which realized not fewer but rather at times greater benefits than that being achieved by those who are truly pulling the cart.

Today the times have changed: the value of the incentive funds is dependent not so much upon the volume of shipments but rather upon the profit obtained from all sources. Moreover, the norms are composed in a manner such that it is more profitable to undertake a tense plan: more resources remain for a collective.

[Question] Could you please explain this by citing an example?

[Answer] For the branch as a whole, the withholdings for the incentive funds amount to 45 percent of the balance profit. That is, from each ruble of profit, 45 kopecks remain at the disposal of the railroad workers. From 1 million rubles — 450,000 rubles. The greater the profit, the more impressive the funds.

[Question] Under these conditions, would it not make more sense to undertake a more tense task?

[Answer] This is true. But today many reason as follows: they say that for fulfillment of the plan 15 percent is withheld for the incentive fund and for each percent of under-fulfillment 3 percent is removed. What sense is there in undertaking a risk? But indeed with a small plan and less profit, possibilities will arise for solving social programs.

Today the leaders of railroads and enterprises must have the commercial know-how for mastering the economic market conditions in their region and be able to earn profits using non-traditional methods. This is of special importance when converting over to cost accounting and self-financing. Indeed there is no basis for expecting assistance from above as was formerly the case. Additions to the funds will depend entirely upon the foresight of the local commanders. But there are still too few leaders who devote such thought to the future. It is only on three railroads that the advantage of tense work is understood — Belorussian, Tselinnaya and BAM. Here, raised tasks have been undertaken. The remaining railroads prefer to wait. Since the roads are not ready for responsible planning, the main administration feels that it must display voluntarism. I would refer to this as wise insurance.

[Question] Thus the more action that is taken by the main administration in the area of sound recommendations the sooner there will be less economic restraints and a drop in the "threshold of voluntarism" — from 81 to 58 percent. Is this not true?

[Answer] Precisely so. Time is needed in order to become accustomed to independence. A realistic period is dependent chiefly upon the roads themselves.

[Question] Thus, just as in the past, much is established from above. Even the overall volume of shipments, the same gross figure which was discussed and debated so extensively. Is it not still in operation?

[Answer] This is not entirely true. On the one hand, it is true that the overall volume of shipments and freight turnover are taken into account when forming the financial plan. They exert a definite effect on the profit and on the funds. But we no longer are moved by the same compulsion for fulfilling these indicators. And even more important is the fact that the wage fund is not linked, as in the past, only to freight turnover.

It is dependent upon the income. And this may derive from various sources. For example, a reduction in production costs or the release of unnecessary equipment. Personnel could be transferred from shipments to other work if their work volume declined — for example, to capital construction, agriculture or any type of work. Many examples could be cited showing how industrious leaders find ways for obtaining additional profit. Workers attached to the long distance route of the Belorussian Railroad organized subsidiary farms and apiaries. In the ors [Department of Workers' Supply] of the Kuybyshev Railroad, the Lokomotiv Cooperative was created for the purpose of making women's heel-strap sandals out of waste products. Great opportunities are opening up for enterprising leaders for augmenting their collective treasures.

Thus it is possible to eliminate the effect of seasonal conditions, to compensate for losses caused by shipment fluctuations, to expand the volume of services and to accelerate construction. Indeed, an opportunity is appearing for maneuvering personnel who earlier were for all practical purposes linked by financial "ties" to the same type of activity. Today they have been liberated in the fullest sense of the word.

[Question] A high degree of centralization for the established tasks will obviously require reliable justifications for them. It is no secret that there is a difference between shipment plans and customer requests. The ministries and departments at times order considerably more rolling stock that is actually needed. This often places the railroad workers in a difficult situation, with the shipment plans collapsing through no fault of their own, will all of the attendant consequences. Is there a guarantee that this will not happen now?

[Answer] We still lack such confidence. As revealed during this current year, the vicious practice of inflated requests by some ministries and departments has still not been eliminated. For example, the coalminers are chronically inflating their requests. As a result, for example, shipments on the Central Asian Railroad have fallen behind in the amount of approximately 1 million tons of coal and there is a shortage of one and a half million tons of fuel in the zone of the Bashkir Branch of the Kuybyshev Railroad.

Nor is the situation any better in the case of timber freight. Soyuzglavles is constantly turning in fake annual requests for 15-18 million tons. This disturbs us greatly. But many departments are planning positive changes. The example of past years is not being followed in a responsible manner in the planning of shipments by Minneftekhimprom [Ministry of the Petroleum Refining and Petrochemical Industry], Minnefteprom [Ministry of the Petroleum Industry], USSR Goskomkhleboproduktov and Minudobreniy [Ministry of Mineral Fertilizer Production]. And although Minugleprom [Ministry of the Coal Industry] and Soyuzglavles are similar to one another, they do not intend to reorganize their planning "method."

It was back in July that the MPS issued recommendations to the union Gosplans and Gossnabs for raising the responsibility of ministries and departments for the truthfulness and validity of their shipment orders. However, there have still been no official decisions. Having just established the work on a legislative basis, we will receive a guarantee for the truthfulness of the orders.

Thus the chief of the main administration has expressed the point of view taken by the ministry. In a manner of speaking, this view is from "above." We would like to know what the railroads think about these new innovations in planning. We await your letters.

Failure to Apply BAM Lessons on AYAM

18290032a Moscow TRUD in Russian 18 Nov 87 p 2

[Article by TRUD special correspondent I. Krasikov on the Berkakit—Tommot—Yakutsk line under the rubric "A Question Awaits an Answer": "A New Railroad, Old Mistakes—Miscalculations in the Development of the Infrastructure of the BAM are Being Repeated in the Construction of the New 830-kilometer Amur-Yakutsk Mainline"]

[Text] *It is well known to all: Yakutiya is famous for its snow, gold and diamonds. It is also rich, however, in coal, natural gas, iron ore and other natural resources whose inclusion in national-economic circulation is being hindered by the lack of reliable year-round transportation links in the republic. Almost 80 percent of all freight—from fruits and children's food to bulldozers and excavators—is shipped here on the Lena River, which is navigable for only three or four months each year. Aircraft and motor vehicles are used to deliver urgent cargo, which costs the state a pretty penny. It is enough to say that the share of transport spending is almost half of the production cost in Yakutiya, whereas it does not exceed twelve percent for the country overall.*

It is thus understandable how important the Amur-Yakutsk Mainline (AYAM), the construction of which began two and a half years ago and which should enter service in 1995, is to the region. This mainline cedes nothing to the BAM in the difficulty of its construction. It gains only from the fact that the tested subdivisions of Glavbamtroy [BAM Construction Main Administration] and the Mostostroy-10 [Bridge Construction] Trust, which have already undergone severe professional schooling under northern conditions, are involved in its construction. It would seem that their experience would make it possible to avoid the serious mistakes that were committed at one time on the BAM...

The experienced bridge builder G. Morozov has lived for ten years in Dyugabul, one of the three base settlements for the BAM bridge workers. He rents a well-appointed two-room apartment in a large building. The Morozov couple is fortunate, it seems, although for a family with four children, two rooms are certainly a little tight. More than half of the workers of Bridge Detachment No 76 (like the other subdivisions of the trust, by the way) still live in temporary structures that were set up at the very dawn of mainline construction.

The Morozovs have also suffered the full measure. They had to reside in a freezing railcar and in wooden-strip houses before they got this apartment. And then, when life should have been settling down, they are moved again: the detachment will be re-stationed to Yakutsk, where the construction of the largest project of the AYAM Mainline is projected—a unique three-kilometer

bridge across the Lena. There has been nothing like it in domestic bridge-building practice. Its erection, according to preliminary calculations, should take no less than eight years.

The trust furthermore has to erect additional crossings of the Aldan and Amgun rivers in Yakutiya along with another 400—no more, no fewer—large and small bridges.

"I wasn't surprised by this transfer, that's the work," said Gennadiy Vasilyevich, "but my family, my children... Do they really have to start in a railcar again like on the BAM? That's what it's coming to: the transfer is at hand, and they haven't even started on the Lena—they haven't put up a single apartment; apparently, we'll have to build the bridge and housing for ourselves at the same time. And I know what that means: many years will pass until we have a normal existence."

"Reasonable apprehensions," commented trust manager V. Shmidt on his statements. "No fewer than two thousand people will be employed in the construction of the Lena bridge—consider it, the largest object on the mainline. Almost all of them, like Morozov, are family people. This means that we will have to raise up a residential settlement on the Lena for a minimum of six thousand residents and provide them with a whole set of social and domestic amenities as well—from baths and vegetable storage to clubs and out-patient clinics. The task is complicated by the fact that we must create our own productive base there at the same time that can support the erection of the gigantic bridge. And all of this work, which we call preparatory, must be 'rushed through' in the next year or two: after that there won't be any time left—we'll be in time trouble. Compare the directive deadlines for the construction of the line (1995) and the time periods for building the bridge (eight years) and you can understand our mood. It is long since time to get started, but we don't have official permission for it. The conclusion is obvious: if we waste time now, the storm of construction will come in later and there will be no social and cultural construction in its wake..."

The start of preparatory work on the bridge crossing of the Lena has been postponed until 1989 for a whole series of reasons. First of all, that is the time the planners need to prepare a plan for its construction. Second, the positioning of the bridge has not yet been determined (there are several variants, but none of them have been approved, and it is only known that the giant will cross the Lena thirty or forty kilometers from the city), and the development of preparatory work under these conditions is fraught with worthless spending. And the last—there are simply no funds for production... Soyuzstroybank [All-Union Construction Bank] has already covered the financing of the AYam twice this year due to a shortage of capital investment allocated to it by the client—the Ministry of Railways [MPS]. What MPS is now giving the construction site and the bridge workers is not enough to satisfy even the most modest of requirements.

Out of the 70 million rubles allocated for the AYam this year, they have received only an inconsequential portion, and the principal portion of the funds went to making rights-of-way and cutting strips through the forest. The assimilation of roughly the same amount is planned for next year, while the bridge workers will require no less than 40 million rubles.

It is striking, but it is a fact: the new line was refused the allocation of dedicated-purpose funds, a separate planning line item, as was the case for the BAM. Considerations of economy engendered the far from Solomonic solution of the planners to finance the construction using the funds allocated to the Ministry of Railways for the development of the rail network.

What has happened? The client has proven not to have a vested interest in constructing the new line: after all, due to that they have to refrain from the development of already existing mainlines and deprive many stations of additional tracks, new buildings and structures and the latest achievements of transport communications, and this is roughly the same as putting the brakes on an express that is gathering speed. That is hitting MPS where it hurts, slowing the rate and volume of line construction, which will moreover not soon bring any dividends. And they try to cut, as always, first and foremost at the expense of housing and social and domestic construction.

Today it can be asserted with sadness that the construction of the new line, like the BAM at one time, was sanctioned without proper preparation. As if there had not just been analogous negative experience. It is as if they deliberately closed their eyes to it. The planning documentation comes in hot off the presses. The builders literally snatch it from the hands of the planners...

The track layer has not even covered forty kilometers since April of 1985, as it has literally gotten stuck at the bridges over the Chulman, the last of which has still not been supplied with the metal structural elements for the bridge superstructure: the suppliers are delivering them. The password "For the AYam" has not proven to be almighty, as it was for the BAM in its time: the reputation of the sites is not the same—it is as if the railroad pushing up the meridian to the north has skirted the attention of the ministries and departments. That is why the prospects for the construction of the "whales" of the mainline are still not clear—those same other bridges: Lengiprotransmost [Leningrad State Planning and Surveying Institute for Bridge and Transport Construction] has issued documentation (and even that requiring additional study and correction) only for the Aldan crossing. The bridge workers are finishing up their last work on the BAM—it is time to transfer the basic manpower of the detachments to the north—but there is still nothing for them to do there. Personnel have begun to leave.

"Steady wages and real prospects for improved living conditions are the main conditions for consolidating people in our regions," argues the trust's trade-union committee chairman, A. Gishlakayev. "And we cannot guarantee our people either the one or the other. At one time they planned to erect housing in Yakutsk right away as a capital project. The Yakutsk people promised sponsoring assistance with their housing-construction combine (Mintransstroy [Ministry of Transport Construction] even took up the additional development of it), but something disrupted our sponsors... Today we face the necessity of creating two temporary settlements at the bridge, but there is no clarity there either. We don't need shacks there, we want houses provided with all municipal services, but Mintransstroy did not envisage the delivery of equipment.

"And now people have started to scatter to other construction sites across the country. We are losing specialists that acquired invaluable experience in bridge building in the north over years of work on the BAM."

It is important to emphasize that the new mainline is extremely necessary to the national economy. First of all, it unites the country with a habitable region—south Yakutiya. Second, the first 380 kilometers of the mainline traverse two new coal fields that together with the existing Neryungrin open-pit mine will be able to supply the state with about 25 million tons a year of a fuel that is in short supply in the region. Third, geologists have surveyed a rich iron-ore basin not far from them, two fields of which have already been prepared for exploitation. This close vicinity, in the opinion of economists, will allow the development of a new and powerful base of ferrous metallurgy to begin in the eastern part of the

country. Moreover, the Seligdar Apatite Field has long attracted the attention of specialists. It is quite sufficient to create a major enterprise to produce mineral fertilizers.

Preliminary calculations show that the construction of the AYaM will pay for itself in three or four years of operation. The best confirmation of its promise is the fate of the little BAM, the Tynda-Berkakit line, put into service eight years ago. Today it is the highest-traffic line of the BAM. More than 13 million tons of coal from the Neryungrin Mine alone and a multitude of other freight was shipped on it last year.

In short, the benefits from the construction of the new mainline evoke no doubt. But meanwhile only a little more than 90 million of the two billion rubles of its estimated cost have been assimilated over two years.

"I feel in my heart that everything will be like the BAM," sighs the mother of four and wife of the bridge builder, Tatyana Morozova, and she is not hurrying to pack the suitcases for the transfer to Yakutiya.

And not her alone. They say that recently a statement was issued regarding the retirement of N. Kushnir, a famous team leader from the BAM who had started practically from the first stake. Because in ten years of waiting he had been unable to get a well-appointed apartment for his family. It doesn't "shine" up ahead in the coming years on the AyaM either...

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